



정답과 해설

1A

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1 소인수분해

STEP 1

01 약수와 배수

p. 6

- 1 5
 - 3 1, 2, 4, 5, 10, 20
 - 5 1, 2, 4, 8, 16, 32
 - 7 16, 20
 - 9 8, 16, 24, 32, 40
 - 2 1, 2, 3, 6, 9, 18
 - 4 1, 5, 25
 - 6 1, 2, 3, 6, 7, 14, 21, 42
 - 8 6, 12, 18, 24, 30
 - 10 11, 22, 33, 44, 55
- 2 $18 \div 1 = 18$, $18 \div 2 = 9$, $18 \div 3 = 6$, $18 \div 6 = 3$,
 $18 \div 9 = 2$, $18 \div 18 = 1$ 이므로 18의 약수는 1, 2, 3, 6, 9, 18이다.
 - 3 $20 \div 1 = 20$, $20 \div 2 = 10$, $20 \div 4 = 5$, $20 \div 5 = 4$,
 $20 \div 10 = 2$, $20 \div 20 = 1$ 이므로 20의 약수는 1, 2, 4, 5, 10, 20이다.

02 소수와 합성수

p. 7 ~ p. 8

- 1 13, 소수
- 3 1, 3, 5, 15, 합성수
- 5 1, 3, 7, 21, 합성수
- 7 1, 2, 4, 7, 14, 28, 합성수
- 9 1, 31, 소수
- 11 1, 5, 7, 35, 합성수
- 13 1, 41, 소수
- 15 1, 7, 49, 합성수
- 17 1, 2, 4, 13, 26, 52, 합성수
- 19 1, 3, 19, 57, 합성수
- 21 1, 3, 7, 9, 21, 63, 합성수
- 2 1, 2, 7, 14, 합성수
- 4 1, 19, 소수
- 6 1, 3, 9, 27, 합성수
- 8 1, 29, 소수
- 10 1, 3, 11, 33, 합성수
- 12 1, 37, 소수
- 14 1, 47, 소수
- 16 1, 2, 5, 10, 25, 50, 합성수
- 18 1, 53, 소수
- 20 1, 59, 소수
- 22 1, 5, 13, 65, 합성수

2 | 정답과 해설

STEP 2

기본연산 집중연습 | 01~02

p. 9

1 노트

1



12	7	35	46	25
21	31	1	78	9
72	19	73	47	57
8	51	67	60	27
65	41	2	13	20

24	17	53	79	30
10	83	6	63	14
69	23	71	11	39
22	59	15	74	26
28	5	43	61	49
4	93	66	16	32
58	29	37	3	80

STEP 1

03 거듭제곱으로 나타내기(1)

p. 10

- 1 3
- 3 10, 2
- 5 4
- 7 10^4
- 2 2, 1
- 4 4, 5
- 6 5^2
- 8 7^3

04 거듭제곱으로 나타내기(2)

p. 11 ~ p. 12

- | | |
|--|--|
| 1 4, 4 | 2 $\left(\frac{1}{2}\right)^2$ 또는 $\frac{1}{2^2}$ |
| 3 $\left(\frac{1}{3}\right)^4$ 또는 $\frac{1}{3^4}$ | 4 $\left(\frac{1}{7}\right)^5$ 또는 $\frac{1}{7^5}$ |
| 5 2 | 6 $\frac{1}{7}, 3$ |
| 7 $\frac{3}{4}, 4$ | 8 $\frac{1}{10}, 5$ |
| 9 2, 3 | 10 $3^3 \times 7^2$ |
| 11 $3 \times 5^3 \times 7$ | 12 $2^2 \times 5 \times 7^2$ |
| 13 2, 2 | 14 $\left(\frac{1}{2}\right)^3 \times \left(\frac{1}{7}\right)^2$ |
| 15 $\frac{1}{2} \times \left(\frac{1}{3}\right)^3$ | 16 $\left(\frac{1}{5}\right)^2 \times \left(\frac{1}{11}\right)^4$ |
| 17 2 | 18 $\frac{1}{2^3}$ |
| 19 $\frac{1}{5^2 \times 7^2}$ | 20 $\frac{1}{3^3 \times 5^2}$ |
| 21 2 | 22 $\left(\frac{3}{7}\right)^3$ |

STEP 2

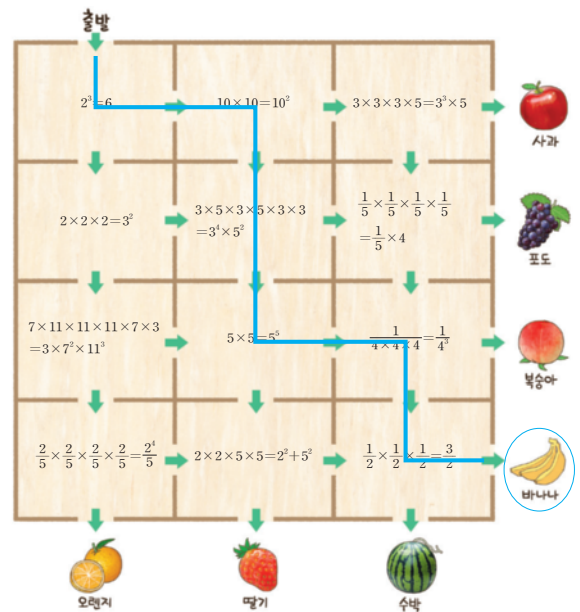
기본연산 집중연습 | 03~05

p. 14 ~ p. 15

- | | |
|--|--------------------------------|
| 1 5^4 | 2 11^2 |
| 3 $2^3 \times 5^2$ | 4 $3^3 \times 7^2$ |
| 5 $2^4 \times 3 \times 5^2$ | 6 $2^3 \times 5^2 \times 11^3$ |
| 7 $\left(\frac{1}{3}\right)^2 \times \left(\frac{1}{7}\right)^3$ | 8 $\left(\frac{2}{3}\right)^4$ |
| 9 $\frac{1}{2^2 \times 3^3}$ | |
| 10 바나나 | |

BUTTERFLY(나비)

10



05 거듭제곱의 값 구하기

p. 13

- | | |
|------------------|------------------|
| 1 125 | 2 1 |
| 3 16 | 4 $\frac{1}{25}$ |
| 5 $\frac{4}{49}$ | 6 $\frac{1}{64}$ |
| 7 2, 6, 2, 9 | 8 4, 8, 4, 16 |
| 9 3, 12, 3, 64 | |

06 인수와 소인수

p. 16

- 1 18, 9, 9, 18, 3
- 2 인수 : 1, 2, 4, 5, 10, 20
소인수 : 2, 5
- 3 인수 : 1, 5, 25
소인수 : 5
- 4 인수 : 1, 2, 3, 5, 6, 10, 15, 30
소인수 : 2, 3, 5
- 5 인수 : 1, 3, 13, 39
소인수 : 3, 13
- 6 인수 : 1, 2, 4, 11, 22, 44
소인수 : 2, 11
- 7 인수 : 1, 2, 4, 13, 26, 52
소인수 : 2, 13
- 8 인수 : 1, 2, 3, 4, 5, 6, 10, 12, 15, 20, 30, 60
소인수 : 2, 3, 5

07 소인수분해 하는 방법(1)

p. 17

- 1 6, 3, 3, 3, 3
- 2 $100=2^2 \times 5^2$, 소인수 : 2, 5
- 3 $16=2^4$, 소인수 : 2
- 4 $18=2 \times 3^2$, 소인수 : 2, 3
- 5 $48=2^4 \times 3$, 소인수 : 2, 3
- 6 $56=2^3 \times 7$, 소인수 : 2, 7
- 7 $99=3^2 \times 11$, 소인수 : 3, 11
- 8 $180=2^2 \times 3^2 \times 5$, 소인수 : 2, 3, 5

$$2 \quad 100 \begin{array}{l} \swarrow 2 \\ 50 \end{array} \begin{array}{l} \swarrow 2 \\ 25 \end{array} \begin{array}{l} \swarrow 5 \\ 5 \end{array}$$

$$3 \quad 16 \begin{array}{l} \swarrow 2 \\ 8 \end{array} \begin{array}{l} \swarrow 2 \\ 4 \end{array} \begin{array}{l} \swarrow 2 \\ 2 \end{array}$$

$$4 \quad 18 \begin{array}{l} \swarrow 2 \\ 9 \end{array} \begin{array}{l} \swarrow 3 \\ 3 \end{array}$$

$$5 \quad 48 \begin{array}{l} \swarrow 2 \\ 24 \end{array} \begin{array}{l} \swarrow 2 \\ 12 \end{array} \begin{array}{l} \swarrow 2 \\ 6 \end{array} \begin{array}{l} \swarrow 2 \\ 3 \end{array}$$

$$6 \quad 56 \begin{array}{l} \swarrow 2 \\ 28 \end{array} \begin{array}{l} \swarrow 2 \\ 14 \end{array} \begin{array}{l} \swarrow 2 \\ 7 \end{array}$$

$$7 \quad 99 \begin{array}{l} \swarrow 3 \\ 33 \end{array} \begin{array}{l} \swarrow 3 \\ 11 \end{array}$$

$$8 \quad 180 \begin{array}{l} \swarrow 2 \\ 90 \end{array} \begin{array}{l} \swarrow 2 \\ 45 \end{array} \begin{array}{l} \swarrow 3 \\ 15 \end{array} \begin{array}{l} \swarrow 3 \\ 5 \end{array}$$

08 소인수분해 하는 방법(2)

p. 18

- 1 2, 2, 12, 2, 6
 $24=2^3 \times 3$, 소인수 : 2, 3
- 2 $28=2^2 \times 7$, 소인수 : 2, 7
- 3 $45=3^2 \times 5$, 소인수 : 3, 5
- 4 $60=2^2 \times 3 \times 5$, 소인수 : 2, 3, 5
- 5 $125=5^3$, 소인수 : 5
- 6 $132=2^2 \times 3 \times 11$, 소인수 : 2, 3, 11

$$2 \quad \begin{array}{r} 2 \overline{) 28} \\ \underline{2 } \\ 0 \end{array}$$

$$3 \quad \begin{array}{r} 3 \overline{) 45} \\ \underline{3 } \\ 15 \\ \underline{15} \\ 0 \end{array}$$

$$4 \quad \begin{array}{r} 2 \overline{) 60} \\ \underline{2 } \\ 0 \end{array}$$

$$5 \quad \begin{array}{r} 5 \overline{) 125} \\ \underline{5 } \\ 0 \end{array}$$

$$6 \quad \begin{array}{r} 2 \overline{) 132} \\ \underline{2 } \\ 12 \\ \underline{12} \\ 0 \end{array}$$

09 소인수분해 하기

p. 19

- 1 10, 2, 2, 2, 10
 $20=2^2 \times 5$, 소인수 : 2, 5
- 2 $27=3^3$, 소인수 : 3
- 3 $78=2 \times 3 \times 13$, 소인수 : 2, 3, 13
- 4 $140=2^2 \times 5 \times 7$, 소인수 : 2, 5, 7
- 5 $144=2^4 \times 3^2$, 소인수 : 2, 3
- 6 $200=2^3 \times 5^2$, 소인수 : 2, 5

2 $27 \begin{matrix} \swarrow 3 \\ 9 \swarrow 3 \\ \searrow 3 \end{matrix}$ $\begin{array}{r} 3 \overline{)27} \\ 3 \overline{)9} \\ 3 \end{array}$

3 $78 \begin{matrix} \swarrow 2 \\ 39 \swarrow 3 \\ \searrow 13 \end{matrix}$ $\begin{array}{r} 2 \overline{)78} \\ 3 \overline{)39} \\ 13 \end{array}$

4 $140 \begin{matrix} \swarrow 2 \\ 70 \swarrow 2 \\ 35 \swarrow 5 \\ \searrow 7 \end{matrix}$ $\begin{array}{r} 2 \overline{)140} \\ 2 \overline{)70} \\ 5 \overline{)35} \\ 7 \end{array}$

5 $144 \begin{matrix} \swarrow 2 \\ 72 \swarrow 2 \\ 36 \swarrow 2 \\ 18 \swarrow 2 \\ 9 \swarrow 3 \\ \searrow 3 \end{matrix}$

$$\begin{array}{r} 2 \overline{)144} \\ 2 \overline{)72} \\ 2 \overline{)36} \\ 2 \overline{)18} \\ 3 \overline{)9} \\ 3 \end{array}$$

6 $200 \begin{matrix} \swarrow 2 \\ 100 \swarrow 2 \\ 50 \swarrow 2 \\ 25 \swarrow 5 \\ \searrow 5 \end{matrix}$

$$\begin{array}{r} 2 \overline{)200} \\ 2 \overline{)100} \\ 2 \overline{)50} \\ 5 \overline{)25} \\ 5 \end{array}$$

10 소인수분해를 이용하여 약수 구하기

p. 20 ~ p. 21

- 1 1, 5, 25
- 2 1, 7, 49, 343
- 3 1, 3, 9, 27, 81
- 4 1, 2, 4, 8, 16, 32
- 5 7, 7, 9, 7, 63, 3, 9, 21

6

×	1	3	3^2	3^3
1	$1 \times 1 = 1$	$1 \times 3 = 3$	$1 \times 3^2 = 9$	$1 \times 3^3 = 27$
2	$2 \times 1 = 2$	$2 \times 3 = 6$	$2 \times 3^2 = 18$	$2 \times 3^3 = 54$

약수 : 1, 2, 3, 6, 9, 18, 27, 54

7

×	1	7	7^2
1	$1 \times 1 = 1$	$1 \times 7 = 7$	$1 \times 7^2 = 49$
2	$2 \times 1 = 2$	$2 \times 7 = 14$	$2 \times 7^2 = 98$
2^2	$2^2 \times 1 = 4$	$2^2 \times 7 = 28$	$2^2 \times 7^2 = 196$

약수 : 1, 2, 4, 7, 14, 28, 49, 98, 196

8

×	1	5	5^2
1	$1 \times 1 = 1$	$1 \times 5 = 5$	$1 \times 5^2 = 25$
3	$3 \times 1 = 3$	$3 \times 5 = 15$	$3 \times 5^2 = 75$
3^2	$3^2 \times 1 = 9$	$3^2 \times 5 = 45$	$3^2 \times 5^2 = 225$

약수 : 1, 3, 5, 9, 15, 25, 45, 75, 225

- 9 ① 36을 소인수분해 하면 $36=2^2 \times 3^2$

②

×	1	3	3^2
1	$1 \times 1 = 1$	$1 \times 3 = 3$	$1 \times 3^2 = 9$
2	$2 \times 1 = 2$	$2 \times 3 = 6$	$2 \times 3^2 = 18$
2^2	$2^2 \times 1 = 4$	$2^2 \times 3 = 12$	$2^2 \times 3^2 = 36$

③ 약수는 1, 2, 3, 4, 6, 9, 12, 18, 36

- 10 ① 100을 소인수분해 하면 $100=2^2 \times 5^2$

②

×	1	5	5^2
1	$1 \times 1 = 1$	$1 \times 5 = 5$	$1 \times 5^2 = 25$
2	$2 \times 1 = 2$	$2 \times 5 = 10$	$2 \times 5^2 = 50$
2^2	$2^2 \times 1 = 4$	$2^2 \times 5 = 20$	$2^2 \times 5^2 = 100$

③ 약수는 1, 2, 4, 5, 10, 20, 25, 50, 100

- 11 ① 108을 소인수분해 하면 $108=2^2 \times 3^3$

②

×	1	3	3^2	3^3
1	$1 \times 1 = 1$	$1 \times 3 = 3$	$1 \times 3^2 = 9$	$1 \times 3^3 = 27$
2	$2 \times 1 = 2$	$2 \times 3 = 6$	$2 \times 3^2 = 18$	$2 \times 3^3 = 54$
2^2	$2^2 \times 1 = 4$	$2^2 \times 3 = 12$	$2^2 \times 3^2 = 36$	$2^2 \times 3^3 = 108$

③ 약수는 1, 2, 3, 4, 6, 9, 12, 18, 27, 36, 54, 108

- 12 ① 135를 소인수분해 하면 $135=3^3 \times 5$

②

×	1	5
1	$1 \times 1 = 1$	$1 \times 5 = 5$
3	$3 \times 1 = 3$	$3 \times 5 = 15$
3^2	$3^2 \times 1 = 9$	$3^2 \times 5 = 45$
3^3	$3^3 \times 1 = 27$	$3^3 \times 5 = 135$

③ 약수는 1, 3, 5, 9, 15, 27, 45, 135

13 ① 250을 소인수분해 하면 $250 = 2 \times 5^3$

②

×	1	5	5^2	5^3
1	$1 \times 1 = 1$	$1 \times 5 = 5$	$1 \times 5^2 = 25$	$1 \times 5^3 = 125$
2	$2 \times 1 = 2$	$2 \times 5 = 10$	$2 \times 5^2 = 50$	$2 \times 5^3 = 250$

③ 약수는 1, 2, 5, 10, 25, 50, 125, 250

14 ① 392를 소인수분해 하면 $392 = 2^3 \times 7^2$

②

×	1	7	7^2
1	$1 \times 1 = 1$	$1 \times 7 = 7$	$1 \times 7^2 = 49$
2	$2 \times 1 = 2$	$2 \times 7 = 14$	$2 \times 7^2 = 98$
2^2	$2^2 \times 1 = 4$	$2^2 \times 7 = 28$	$2^2 \times 7^2 = 196$
2^3	$2^3 \times 1 = 8$	$2^3 \times 7 = 56$	$2^3 \times 7^2 = 392$

③ 약수는 1, 2, 4, 7, 8, 14, 28, 49, 56, 98, 196, 392

11 약수의 개수 구하기

p. 22 ~ p. 23

- | | |
|---|-------|
| 1 2, 2, 3 | 2 6 |
| 3 3 | 4 4 |
| 5 2, 3, 2, 3, 12 | 6 9 |
| 7 20 | 8 24 |
| 9 8 | 10 8 |
| 11 1, 1, 1, 18 | 12 12 |
| 13 24 | 14 16 |
| 15 2, 2, 6 | |
| 16 $36 = 2^2 \times 3^2$, $(2+1) \times (2+1) = 9(\text{개})$ | |
| 17 $52 = 2^2 \times 13$, $(2+1) \times (1+1) = 6(\text{개})$ | |
| 18 $200 = 2^3 \times 5^2$, $(3+1) \times (2+1) = 12(\text{개})$ | |
| 19 $120 = 2^3 \times 3 \times 5$, $(3+1) \times (1+1) \times (1+1) = 16(\text{개})$ | |
| 20 $144 = 2^4 \times 3^2$, $(4+1) \times (2+1) = 15(\text{개})$ | |
| 21 $256 = 2^8$, $8+1 = 9(\text{개})$ | |
| 22 $504 = 2^3 \times 3^2 \times 7$, $(3+1) \times (2+1) \times (1+1) = 24(\text{개})$ | |

STEP 2

기본연산 집중연습 | 06~11

p. 24 ~ p. 25

- $42 = 2 \times 3 \times 7$, 소인수 : 2, 3, 7
- $70 = 2 \times 5 \times 7$, 소인수 : 2, 5, 7
- $90 = 2 \times 3^2 \times 5$, 소인수 : 2, 3, 5
- $126 = 2 \times 3^2 \times 7$, 소인수 : 2, 3, 7
- $143 = 11 \times 13$, 소인수 : 11, 13
- $210 = 2 \times 3 \times 5 \times 7$, 소인수 : 2, 3, 5, 7

7 ① $75 = 3 \times 5^2$

②

×	1	5	5^2
1	$1 \times 1 = 1$	$1 \times 5 = 5$	$1 \times 5^2 = 25$
3	$3 \times 1 = 3$	$3 \times 5 = 15$	$3 \times 5^2 = 75$

③ 1, 3, 5, 15, 25, 75

8 ① $441 = 3^2 \times 7^2$

②

×	1	7	7^2
1	$1 \times 1 = 1$	$1 \times 7 = 7$	$1 \times 7^2 = 49$
3	$3 \times 1 = 3$	$3 \times 7 = 21$	$3 \times 7^2 = 147$
3^2	$3^2 \times 1 = 9$	$3^2 \times 7 = 63$	$3^2 \times 7^2 = 441$

③ 1, 3, 7, 9, 21, 49, 63, 147, 441

9 1, 3, 3^2

10 $1, 2^2, 2 \times 3, 2^2 \times 3^3$

11 $2 \times 3 \times 5, 2 \times 3^2 \times 5, 3^2 \times 5^2$

12 6개 연구 2, 2, 6

13 6개

14 9개

15 24개

16 12개

17 12개

수현

$$\begin{array}{r} 2 \overline{)42} \\ 3 \overline{)21} \\ 7 \end{array}$$

$$\begin{array}{r} 2 \overline{)70} \\ 5 \overline{)35} \\ 7 \end{array}$$

$$\begin{array}{r} 2 \overline{)90} \\ 3 \overline{)45} \\ 3 \overline{)15} \\ 5 \end{array}$$

$$\begin{array}{r} 4 \overline{)126} \\ 3 \overline{)63} \\ 3 \overline{)21} \\ 7 \end{array}$$

$$\begin{array}{r} 11 \overline{)143} \\ 13 \end{array}$$

$$\begin{array}{r} 6 \overline{)210} \\ 3 \overline{)105} \\ 5 \overline{)35} \\ 7 \end{array}$$

13 5×7^2 의 약수의 개수는 $(1+1) \times (2+1) = 6(\text{개})$

14 $4 \times 3^2 = 2^2 \times 3^2$ 이므로 약수의 개수는 $(2+1) \times (2+1) = 9(\text{개})$

15 $2 \times 3^2 \times 5^3$ 의 약수의 개수는 $(1+1) \times (2+1) \times (3+1) = 24(\text{개})$

16 $84 = 2^2 \times 3 \times 7$ 이므로 약수의 개수는 $(2+1) \times (1+1) \times (1+1) = 12(\text{개})$

17 $198 = 2 \times 3^2 \times 11$ 이므로 약수의 개수는 $(1+1) \times (2+1) \times (1+1) = 12(\text{개})$

STEP 3

기본연산 테스트

p. 26 ~ p. 27

- 1 3, 13
- 2 15, 33, 91
- 3 (1) 밑 : 3, 지수 : 2 (2) 밑 : 1, 지수 : 10
(3) 밑 : 11, 지수 : 1 (4) 밑 : $\frac{1}{7}$, 지수 : 2
(5) 밑 : $\frac{5}{8}$, 지수 : 4
- 4 (1) 3^3 (2) $5^3 \times 7^2$ (3) $2^4 \times 5^2$ (4) $\left(\frac{1}{2}\right)^2 \times \left(\frac{1}{3}\right)^2$ (5) $\frac{1}{2^4}$
(6) $\frac{1}{2 \times 3^2 \times 5^3}$ (7) $\left(\frac{3}{10}\right)^3$
- 5 (1) ○ (2) × (3) ○ (4) × (5) ○
- 6 (1) $30 = 2 \times 3 \times 5$ (2) $68 = 2^2 \times 17$
(3) $88 = 2^3 \times 11$ (4) $169 = 13^2$
(5) $184 = 2^3 \times 23$ (6) $240 = 2^4 \times 3 \times 5$
(7) $360 = 2^3 \times 3^2 \times 5$ (8) $495 = 3^2 \times 5 \times 11$
(9) $580 = 2^2 \times 5 \times 29$ (10) $900 = 2^2 \times 3^2 \times 5^2$
- 7 (1) $80 = 2^4 \times 5$
(2)

×	1	5
1	$1 \times 1 = 1$	$1 \times 5 = 5$
2	$2 \times 1 = 2$	$2 \times 5 = 10$
2^2	$2^2 \times 1 = 4$	$2^2 \times 5 = 20$
2^3	$2^3 \times 1 = 8$	$2^3 \times 5 = 40$
2^4	$2^4 \times 1 = 16$	$2^4 \times 5 = 80$
- (3) 1, 2, 4, 5, 8, 10, 16, 20, 40, 80
- 8 (1) 3개 (2) 6개 (3) 6개 (4) 20개 (5) 9개 (6) 24개
(7) 6개 (8) 16개

2 $15 = 3 \times 5$, $33 = 3 \times 11$, $91 = 7 \times 13$ 이므로 15, 33, 91은 합성수이다.

- 5 (2) $4 \times 4 \times 4 = 4^3$
(4) $\frac{2}{3} \times \frac{2}{3} \times \frac{2}{3} \times \frac{2}{3} = \left(\frac{2}{3}\right)^4$
- 8 (1) 2^2 의 약수의 개수는 $2+1=3$ (개)
(2) 3^5 의 약수의 개수는 $5+1=6$ (개)
(3) $28 = 2^2 \times 7$ 이므로 약수의 개수는
 $(2+1) \times (1+1) = 6$ (개)
(4) $2^4 \times 5^3$ 의 약수의 개수는 $(4+1) \times (3+1) = 20$ (개)
(5) $5^2 \times 11^2$ 의 약수의 개수는 $(2+1) \times (2+1) = 9$ (개)
(6) $2 \times 3^3 \times 7^2$ 의 약수의 개수는
 $(1+1) \times (3+1) \times (2+1) = 24$ (개)
(7) $2 \times 9 = 2 \times 3^2$ 이므로 약수의 개수는
 $(1+1) \times (2+1) = 6$ (개)
(8) $5 \times 7 \times 8 = 2^3 \times 5 \times 7$ 이므로 약수의 개수는
 $(3+1) \times (1+1) \times (1+1) = 16$ (개)

2 최대공약수와 최소공배수

STEP 1

01 공약수와 최대공약수 구하기

p. 30

- 1 4, 12 / 1, 2, 4 / 4
- 2 1, 2, 3, 6, 9, 18 / 1, 3, 9, 27 / 1, 3, 9 / 9
- 3 1, 3, 5, 15 / 1, 5, 25 / 1, 5 / 5
- 4 1, 2, 3, 4, 6, 8, 12, 24 / 1, 2, 4, 8, 16, 32 / 1, 2, 4, 8 / 8
- 5 1, 3
- 6 1, 2, 3, 6
- 7 1, 2, 5, 10
- 8 1, 2, 4, 7, 14, 28

02 서로소인 두 자연수 찾기

p. 31

- 1 7 / 최대공약수 : 1, 서로소 : ○
- 2 2, 2, 5 / 최대공약수 : 2, 서로소 : ×
- 3 최대공약수 : 1, 서로소 : ○
- 4 최대공약수 : 7, 서로소 : ×
- 5 최대공약수 : 1, 서로소 : ○
- 6 최대공약수 : 5, 서로소 : ×
- 7 최대공약수 : 1, 서로소 : ○
- 8 최대공약수 : 1, 서로소 : ○
- 9 최대공약수 : 2, 서로소 : ×
- 10 최대공약수 : 17, 서로소 : ×

03 공약수로 나누어 최대공약수 구하기(1): 두 수

p. 32

- | | |
|------------|-----|
| 1 7, 7, 14 | 2 9 |
| 3 15 | 4 6 |
| 5 8 | 6 8 |
| 7 10 | 8 6 |

$$\begin{array}{r} 2 \quad 3 \overline{) 36 \ 45} \\ 3 \overline{) 12 \ 15} \\ \quad 4 \quad 5 \\ \Rightarrow (\text{최대공약수}) = 3 \times 3 = 9 \end{array}$$

$$\begin{array}{r} 3 \quad 3 \overline{) 60 \ 45} \\ 5 \overline{) 20 \ 15} \\ \quad 4 \quad 3 \\ \Rightarrow (\text{최대공약수}) = 3 \times 5 = 15 \end{array}$$

$$\begin{array}{r} 4 \quad 2 \overline{) 18 \ 42} \\ 3 \overline{) 9 \ 21} \\ \quad 3 \quad 7 \\ \Rightarrow (\text{최대공약수}) = 2 \times 3 = 6 \end{array}$$

$$\begin{array}{r} 5 \quad 2 \overline{) 24 \ 40} \\ 2 \overline{) 12 \ 20} \\ 2 \overline{) 6 \ 10} \\ \quad 3 \quad 5 \\ \Rightarrow (\text{최대공약수}) = 2 \times 2 \times 2 = 8 \end{array}$$

$$\begin{array}{r} 6 \quad 2 \overline{) 48 \ 56} \\ 2 \overline{) 24 \ 28} \\ 2 \overline{) 12 \ 14} \\ \quad 6 \quad 7 \\ \Rightarrow (\text{최대공약수}) = 2 \times 2 \times 2 = 8 \end{array}$$

$$\begin{array}{r} 7 \quad 2 \overline{) 20 \ 50} \\ 5 \overline{) 10 \ 25} \\ \quad 2 \quad 5 \\ \Rightarrow (\text{최대공약수}) = 2 \times 5 = 10 \end{array}$$

$$\begin{array}{r} 8 \quad 2 \overline{) 30 \ 54} \\ 3 \overline{) 15 \ 27} \\ \quad 5 \quad 9 \\ \Rightarrow (\text{최대공약수}) = 2 \times 3 = 6 \end{array}$$

$$\begin{array}{r} 2 \quad 5 \overline{) 20 \ 35 \ 30} \\ \quad 4 \quad 7 \quad 6 \\ \Rightarrow (\text{최대공약수}) = 5 \end{array}$$

$$\begin{array}{r} 3 \quad 2 \overline{) 16 \ 36 \ 56} \\ 2 \overline{) 8 \ 18 \ 28} \\ \quad 4 \quad 9 \ 14 \\ \Rightarrow (\text{최대공약수}) = 2 \times 2 = 4 \end{array}$$

$$\begin{array}{r} 4 \quad 3 \overline{) 30 \ 75 \ 105} \\ 5 \overline{) 10 \ 25 \ 35} \\ \quad 2 \quad 5 \quad 7 \\ \Rightarrow (\text{최대공약수}) = 3 \times 5 = 15 \end{array}$$

$$\begin{array}{r} 5 \quad 2 \overline{) 18 \ 42 \ 54} \\ 3 \overline{) 9 \ 21 \ 27} \\ \quad 3 \quad 7 \quad 9 \\ \Rightarrow (\text{최대공약수}) = 2 \times 3 = 6 \end{array}$$

$$\begin{array}{r} 6 \quad 2 \overline{) 28 \ 70 \ 84} \\ 7 \overline{) 14 \ 35 \ 42} \\ \quad 2 \quad 5 \quad 6 \\ \Rightarrow (\text{최대공약수}) = 2 \times 7 = 14 \end{array}$$

$$\begin{array}{r} 7 \quad 2 \overline{) 40 \ 60 \ 80} \\ 2 \overline{) 20 \ 30 \ 40} \\ 5 \overline{) 10 \ 15 \ 20} \\ \quad 2 \quad 3 \quad 4 \\ \Rightarrow (\text{최대공약수}) = 2 \times 2 \times 5 = 20 \end{array}$$

$$\begin{array}{r} 8 \quad 2 \overline{) 24 \ 40 \ 56} \\ 2 \overline{) 12 \ 20 \ 28} \\ 2 \overline{) 6 \ 10 \ 14} \\ \quad 3 \quad 5 \quad 7 \\ \Rightarrow (\text{최대공약수}) = 2 \times 2 \times 2 = 8 \end{array}$$

04 공약수로 나누어 최대공약수 구하기(2): 세 수 p. 33

1	2, 4, 15, 2	2	5
3	4	4	15
5	6	6	14
7	20	8	8

05 소인수분해를 이용하여 최대공약수 구하기 p. 34 ~ p. 35

1	2	2	$2, 2^2$
3	$2, 2^2$	4	2×3
5	$2, 3$	6	3^2
7	$2^2, 3$	8	2×5
9	$3^2, 3, 3, 6$	10	10
11	8	12	21
13	18	14	12
15	6	16	14
17	2	18	12

$$\begin{array}{rcl} 10 & 20=2^2 & \times 5 \\ & 30=2 \times 3 \times 5 & \\ \hline & (\text{최대공약수})=2 & \times 5=10 \end{array}$$

$$\begin{array}{r} 11 \qquad 32=2^5 \\ \qquad 56=2^3 \times 7 \\ \hline (\text{최대공약수})=2^3 = 8 \end{array}$$

$$\begin{array}{rcl} 12 & 42=2 \times 3 \times 7 \\ & 63=3^2 \times 7 \\ \hline & (\text{최대공약수})= & 3 \times 7=21 \end{array}$$

$$\begin{array}{r} 13 \qquad 72=2^3 \times 3^2 \\ 162=2 \times 3^4 \\ \hline (\text{최대공약수})=2 \times 3^2=18 \end{array}$$

$$\begin{array}{rcl} 14 & 120=2^3 \times 3 \times 5 & \\ & 252=2^2 \times 3^2 \times 7 & \\ \hline & (\text{최대공약수})=2^2 \times 3 & =12 \end{array}$$

$$\begin{array}{r} 15 \qquad 18=2 \times 3^2 \\ \qquad 60=2^2 \times 3 \times 5 \\ \qquad 144=2^4 \times 3^2 \\ \hline (\text{최대공약수})=2 \times 3 = 6 \end{array}$$

$$\begin{array}{rcl} 16 & 28=2^2 & \times 7 \\ & 42=2 \times 3 & \times 7 \\ & 56=2^3 & \times 7 \\ \hline & (\text{최대공약수})=2 & \times 7=14 \end{array}$$

$$\begin{array}{rcl} 17 & 6=2 \times 3 & \\ & 20=2^2 \times 5 & \\ & 84=2^2 \times 3 \times 7 & \\ \hline & (\text{최대공약수})=2 & \end{array}$$

$$\begin{array}{r} 18 \qquad 24=2^3 \times 3 \\ \qquad 96=2^5 \times 3 \\ \hline \qquad 132=2^2 \times 3 \times 11 \\ \hline (최대공약수)=2^2 \times 3 = 12 \end{array}$$

06 공배수와 최소공배수 구하기

p. 36

1	12, 16, 24 / 24, 36 / 12, 24, ... / 12	
2	5, 10, 15, 20, ... / 10, 20, 30, ... / 10, 20, ... / 10	
3	3, 6, 9, 12, 15, 18, 21, 24, 27, 30, ... /	
	5, 10, 15, 20, 25, 30, ... / 15, 30, ... / 15	
4	6, 12, 18, 24, 30, 36, 42, 48, ... /	
	8, 16, 24, 32, 40, 48, ... / 24, 48, ... / 24	
5	20, 30	6 12, 24, 36
7	28, 56, 84	8 40, 80, 120

07 공약수로 나누어 최소공배수 구하기(1): 두 수

p. 37

1	3, 5, 3, 5, 180	2	30
3	36	4	126
5	90	6	84
7	160	8	180

$$\begin{array}{r} 2 \quad 3 \overline{) 15 \ 30} \\ \quad 5 \overline{) \ 5 \ 10} \\ \quad \quad 1 \ 2 \end{array}$$

⇒ (최소공배수) = $3 \times 5 \times 2 = 30$

$$\begin{array}{r} 2 \overline{) 12 \ 18} \\ 3 \overline{) \ 6 \ 9} \\ \underline{ 2 \ 3} \end{array}$$

⇒ (최소공배수) = $2 \times 3 \times 2 \times 3 = 36$

$$\begin{array}{r} 3 \overline{) 18 \ 63} \\ 3 \overline{) \ 6 \ 21} \\ \hline 2 \ 7 \end{array}$$

⇒ (최소공배수) = $3 \times 3 \times 2 \times 7 = 126$

$$\begin{array}{r} 3 \overline{) 30 \ 45} \\ 5 \overline{) 10 \ 15} \\ \underline{ 2 } \end{array}$$

⇒ (최소공배수) = $3 \times 5 \times 2 \times 3 = 90$

$$\begin{array}{r} 2 \overline{) 28 \ 84} \\ 2 \overline{) 14 \ 42} \\ 7 \overline{) 7 \ 21} \\ \hline 1 \ 3 \end{array}$$

⇒ (최소공배수) = $2 \times 2 \times 7 \times 3 = 84$

$$\begin{array}{r} 2 \overline{) 32 \ 40} \\ 2 \overline{) 16 \ 20} \\ 2 \overline{) 8 \ 10} \\ \hline 4 \ 5 \end{array}$$

⇒ (최소공배수) = $2 \times 2 \times 2 \times 4 \times 5 = 160$

$$\begin{array}{r} 8 \quad 2 \overline{) 36 \ 90} \\ \quad 3 \overline{) 18 \ 45} \\ \quad \quad 3 \overline{) 6 \ 15} \\ \quad \quad \quad 2 \ 5 \end{array}$$

→ (최소공배수) = $2 \times 3 \times 3 \times 2 \times 5 = 180$

08 공약수로 나누어 최소공배수 구하기(2): 세 수 p. 38

1	2, 2, 420	2	600
3	36	4	630
5	1120	6	378
7	240	8	210

$$2 \quad 5 \overline{) 15 \ 25 \ 40}$$

$$\quad \quad 3 \ 5 \ 8$$

→ (최소공배수) = $5 \times 3 \times 5 \times 8 = 600$

$$3 \quad 3 \overline{) 6 \ 9 \ 12}$$

$$2 \quad 2 \overline{) 2 \ 3 \ 4}$$

$$\quad \quad 1 \ 3 \ 2$$

→ (최소공배수) = $3 \times 2 \times 3 \times 2 = 36$

$$4 \quad 7 \overline{) 35 \ 42 \ 63}$$

$$3 \quad 5 \overline{) 5 \ 6 \ 9}$$

$$\quad \quad 5 \ 2 \ 3$$

→ (최소공배수) = $7 \times 3 \times 5 \times 2 \times 3 = 630$

$$5 \quad 2 \overline{) 20 \ 32 \ 56}$$

$$2 \overline{) 10 \ 16 \ 28}$$

$$2 \overline{) 5 \ 8 \ 14}$$

$$\quad \quad 5 \ 4 \ 7$$

→ (최소공배수) = $2 \times 2 \times 2 \times 5 \times 4 \times 7 = 1120$

$$6 \quad 2 \overline{) 18 \ 42 \ 54}$$

$$3 \overline{) 9 \ 21 \ 27}$$

$$3 \overline{) 3 \ 7 \ 9}$$

$$\quad \quad 1 \ 7 \ 3$$

→ (최소공배수) = $2 \times 3 \times 3 \times 7 \times 3 = 378$

$$7 \quad 2 \overline{) 40 \ 60 \ 80}$$

$$2 \overline{) 20 \ 30 \ 40}$$

$$5 \overline{) 10 \ 15 \ 20}$$

$$2 \overline{) 2 \ 3 \ 4}$$

$$\quad \quad 1 \ 3 \ 2$$

→ (최소공배수) = $2 \times 2 \times 5 \times 2 \times 3 \times 2 = 240$

$$8 \quad 3 \overline{) 21 \ 30 \ 105}$$

$$5 \overline{) 7 \ 10 \ 35}$$

$$7 \overline{) 7 \ 2 \ 7}$$

$$\quad \quad 1 \ 2 \ 1$$

→ (최소공배수) = $3 \times 5 \times 7 \times 2 = 210$

09 소인수분해를 이용하여 최소공배수 구하기 p. 39 ~ p. 40

1	2	2	$2, 2, 2^2 \times 3 \times 5$
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$$3 \quad 2 \times 2 \times 2 \times 3 \times 7, 2^3 \times 3 \times 7$$

$$4 \quad 2 \times 3 \times 3 \times 5 \times 7, 2 \times 3^2 \times 5 \times 7$$

5	2, 7	6	$2, 3^3$
---	------	---	----------

7	$3, 5^3, 7^2$	8	$2^4 \times 3^2 \times 5$
---	---------------	---	---------------------------

9	5, 5, 5, 30	10	84
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11	36	12	72
----	----	----	----

13	180	14	3600
----	-----	----	------

15	$2^2, 5, 2^3, 3^2, 2^3, 3^2, 5, 360$	16	756
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17	120	18	490
----	-----	----	-----

$$10 \quad \begin{array}{l} 28 = 2^2 \times 7 \\ 84 = 2^2 \times 3 \times 7 \\ \hline (\text{최소공배수}) = 2^2 \times 3 \times 7 = 84 \end{array}$$

$$11 \quad \begin{array}{l} 12 = 2^2 \times 3 \\ 18 = 2 \times 3^2 \\ \hline (\text{최소공배수}) = 2^2 \times 3^2 = 36 \end{array}$$

$$12 \quad \begin{array}{l} 24 = 2^3 \times 3 \\ 36 = 2^2 \times 3^2 \\ \hline (\text{최소공배수}) = 2^3 \times 3^2 = 72 \end{array}$$

$$13 \quad \begin{array}{l} 45 = 3^2 \times 5 \\ 60 = 2^2 \times 3 \times 5 \\ \hline (\text{최소공배수}) = 2^2 \times 3^2 \times 5 = 180 \end{array}$$

$$14 \quad \begin{array}{l} 100 = 2^2 \times 5^2 \\ 144 = 2^4 \times 3^2 \\ \hline (\text{최소공배수}) = 2^4 \times 3^2 \times 5^2 = 3600 \end{array}$$

$$16 \quad \begin{array}{l} 12 = 2^2 \times 3 \\ 27 = 3^3 \\ 42 = 2 \times 3 \times 7 \\ \hline (\text{최소공배수}) = 2^2 \times 3^3 \times 7 = 756 \end{array}$$

$$17 \quad \begin{array}{l} 8 = 2^3 \\ 12 = 2^2 \times 3 \\ 20 = 2^2 \times 5 \\ \hline (\text{최소공배수}) = 2^3 \times 3 \times 5 = 120 \end{array}$$

$$\begin{array}{rcl}
 18 & 35 = & 5 \times 7 \\
 & 49 = & 7^2 \\
 & 70 = & 2 \times 5 \times 7 \\
 \hline
 & (\text{최소공배수}) = & 2 \times 5 \times 7^2 = 490
 \end{array}$$

STEP 2

기본연산 집중연습 | 01~09

p. 41 ~ p. 43

- 1 1, 3, 5, 15
- 2 1, 2, 4, 5, 10, 20
- 3 1, 7, 49
- 4 1, 2, 3, 4, 5, 6, 10, 12, 15, 20, 30, 60
- 5 15, 30, 45, 60, 75, 90
- 6 22, 44, 66, 88
- 7 27, 54, 81
- 8 35, 70
- 9 (7, 18)
- 10 (3, 7)
- 11 (10, 21)
- 12 (28, 33)
- 13 최대공약수 : 2×3^2 , 최소공배수 : $2^3 \times 3^3$
- 14 최대공약수 : $2^3 \times 3$, 최소공배수 : $2^4 \times 3^2 \times 5 \times 7$
- 15 최대공약수 : 3^2 , 최소공배수 : $2^2 \times 3^2 \times 5^3 \times 7$
- 16 최대공약수 : $2^2 \times 3^2$, 최소공배수 : $2^3 \times 3^2 \times 5 \times 7^2$
- 17 최대공약수 : 3, 최소공배수 : $2^3 \times 3^2 \times 7$
- 18 최대공약수 : 2×3 , 최소공배수 : $2^3 \times 3^4 \times 5 \times 7$
- 19 최대공약수 : 2×3 , 최소공배수 : $2^3 \times 3^3 \times 5 \times 7$
- 20 최대공약수 : 3×7 , 최소공배수 : $2 \times 3^2 \times 5^2 \times 7$
- 21 최대공약수 : 3, 최소공배수 : 108
- 22 최대공약수 : 12, 최소공배수 : 120
- 23 최대공약수 : 15, 최소공배수 : 225
- 24 최대공약수 : 14, 최소공배수 : 280
- 25 최대공약수 : 8, 최소공배수 : 352
- 26 최대공약수 : 30, 최소공배수 : 600
- 27 최대공약수 : 6, 최소공배수 : 252
- 28 최대공약수 : 4, 최소공배수 : 160
- 29 최대공약수 : 12, 최소공배수 : 720
- 30 최대공약수 : 15, 최소공배수 : 1050
- 31 최대공약수 : 12, 최소공배수 : 1680
- 32 최대공약수 : 6, 최소공배수 : 1080

역지사지

$$\begin{array}{rcl}
 21 & 12 = & 2^2 \times 3 \\
 & 27 = & 3^3 \\
 \hline
 & (\text{최대공약수}) = & 3 \\
 & (\text{최소공배수}) = & 2^2 \times 3^3 = 108
 \end{array}$$

$$\begin{array}{rcl}
 22 & 24 = & 2^3 \times 3 \\
 & 60 = & 2^2 \times 3 \times 5 \\
 \hline
 & (\text{최대공약수}) = & 2^2 \times 3 = 12 \\
 & (\text{최소공배수}) = & 2^3 \times 3 \times 5 = 120
 \end{array}$$

$$\begin{array}{rcl}
 23 & 45 = & 3^2 \times 5 \\
 & 75 = & 3 \times 5^2 \\
 \hline
 & (\text{최대공약수}) = & 3 \times 5 = 15 \\
 & (\text{최소공배수}) = & 3^2 \times 5^2 = 225
 \end{array}$$

$$\begin{array}{rcl}
 24 & 56 = & 2^3 \times 7 \\
 & 70 = & 2 \times 5 \times 7 \\
 \hline
 & (\text{최대공약수}) = & 2 \times 7 = 14 \\
 & (\text{최소공배수}) = & 2^3 \times 5 \times 7 = 280
 \end{array}$$

$$\begin{array}{rcl}
 25 & 32 = & 2^5 \\
 & 88 = & 2^3 \times 11 \\
 \hline
 & (\text{최대공약수}) = & 2^3 = 8 \\
 & (\text{최소공배수}) = & 2^5 \times 11 = 352
 \end{array}$$

$$\begin{array}{rcl}
 26 & 120 = & 2^3 \times 3 \times 5 \\
 & 150 = & 2 \times 3 \times 5^2 \\
 \hline
 & (\text{최대공약수}) = & 2 \times 3 \times 5 = 30 \\
 & (\text{최소공배수}) = & 2^3 \times 3 \times 5^2 = 600
 \end{array}$$

$$\begin{array}{rcl}
 27 & 18 = & 2 \times 3^2 \\
 & 36 = & 2^2 \times 3^2 \\
 & 42 = & 2 \times 3 \times 7 \\
 \hline
 & (\text{최대공약수}) = & 2 \times 3 = 6 \\
 & (\text{최소공배수}) = & 2^2 \times 3^2 \times 7 = 252
 \end{array}$$

$$\begin{array}{rcl}
 28 & 16 = & 2^4 \\
 & 20 = & 2^2 \times 5 \\
 & 32 = & 2^5 \\
 \hline
 & (\text{최대공약수}) = & 2^2 = 4 \\
 & (\text{최소공배수}) = & 2^5 \times 5 = 160
 \end{array}$$

29 $48=2^4 \times 3$
 $60=2^2 \times 3 \times 5$
 $72=2^3 \times 3^2$

(최대공약수) $=2^2 \times 3 = 12$
(최소공배수) $=2^4 \times 3^2 \times 5 = 720$

30 $30=2 \times 3 \times 5$
 $75=3 \times 5^2$
 $105=3 \times 5 \times 7$

(최대공약수) $=3 \times 5 = 15$
(최소공배수) $=2 \times 3 \times 5^2 \times 7 = 1050$

31 $48=2^4 \times 3$
 $84=2^2 \times 3 \times 7$
 $120=2^3 \times 3 \times 5$

(최대공약수) $=2^2 \times 3 = 12$
(최소공배수) $=2^4 \times 3 \times 5 \times 7 = 1680$

32 $54=2 \times 3^3$
 $60=2^2 \times 3 \times 5$
 $72=2^3 \times 3^2$

(최대공약수) $=2 \times 3 = 6$
(최소공배수) $=2^3 \times 3^3 \times 5 = 1080$

10 최대공약수의 응용(1): 나누어떨어지게 하는 수 구하기 p. 44

1 약수, 약수, 최대공약수, 6

2 8 3 4

4 10 5 5

2 어떤 자연수는 24, 32의
공약수이다. $24=2^3 \times 3$
 $32=2^5$
따라서 어떤 자연수 중에 (최대공약수) $=2^3 = 8$
서 가장 큰 수는 24와 32의 최대공약수이므로 8이다.

3 어떤 자연수는 20, 28
의 공약수이다. $20=2^2 \times 5$
 $28=2^2 \times 7$
따라서 어떤 자연수 중 (최대공약수) $=2^2 = 4$
에서 가장 큰 수는 20과 28의 최대공약수이므로 4이다.

4 어떤 자연수는 20, 30, $20=2^2 \times 5$
50의 공약수이다. $30=2 \times 3 \times 5$
 $50=2 \times 5^2$
따라서 어떤 자연수
중에서 가장 큰 수는 (최대공약수) $=2 \times 5 = 10$
20, 30, 50의 최대공약수이므로 10이다.

5 어떤 자연수는 15, 25, 35 $15=3 \times 5$
의 공약수이다. $25=5^2$
 $35=5 \times 7$
따라서 어떤 자연수 중에
서 가장 큰 수는 15, 25, (최대공약수) $=5$
35의 최대공약수이므로 5이다.

11 최대공약수의 응용(2) : 분수를 자연수로 만드는 가장 큰 수 구하기 p. 45

1 약수, 약수, 최대공약수, 6

2 1, 2, 4 3 9

4 8 5 14

2 n 의 값은 20, 32의 공약수 $20=2^2 \times 5$
이고 20, 32의 최대공약수 $32=2^5$
는 4이다. (최대공약수) $=2^2 = 4$
따라서 자연수 n 의 값은 1, 2, 4이다.

3 n 의 값은 27, 36의 공약수 $27=3^3$
이다. $36=2^2 \times 3^2$
따라서 n 의 값 중에서 가 (최대공약수) $=3^2 = 9$
장 큰 수는 27, 36의 최대공약수이므로 9이다.

4 □ 안에 들어갈 수 있 $40=2^3 \times 5$
는 자연수는 40, 96의 $96=2^5 \times 3$
공약수이다. (최대공약수) $=2^3 = 8$
따라서 □ 안에 들어갈 수 있는 자연수 중에서 가장 큰 수
는 40, 96의 최대공약수이므로 8이다.

5 □ 안에 들어갈 수 있 $28=2^2 \times 7$
는 자연수는 28, 70 $70=2 \times 5 \times 7$
의 공약수이다. (최대공약수) $=2 \times 7 = 14$
따라서 □ 안에 들어갈 수 있는 자연수 중에서 가장 큰 수
는 28, 70의 최대공약수이므로 14이다.

12 최소공배수의 응용(1): 나누어떨어지는 수 구하기 p. 46

1 배수, 배수, 최소공배수, 24

2 30 3 45

4 280 5 120

2 어떤 자연수는 10, 15
의 공배수이다. $10=2 \times 5$
 $15=3 \times 5$
따라서 어떤 자연수 (최소공배수) $=2 \times 3 \times 5=30$
중에서 가장 작은 수는 10과 15의 최소공배수이므로 30
이다.

3 어떤 자연수는 5, 9의 공배수이다.
따라서 어떤 자연수 중에서 가장 작은 수는 5와 9의 최소
공배수이므로 $5 \times 9=45$ 이다.

4 어떤 자연수는 5, 8,
14의 공배수이다. $5=5$
 $8=2^3$
따라서 어떤 자연수 $14=2 \times 7$
중에서 가장 작은 (최소공배수) $=2^3 \times 5 \times 7=280$
수는 5, 8, 14의 최소공배수이므로 280이다.

5 어떤 자연수는 8, 10,
12의 공배수이다. $8=2^3$
 $10=2 \times 5$
따라서 어떤 자연수 $12=2^2 \times 3$
중에서 가장 작은 (최소공배수) $=2^3 \times 3 \times 5=120$
수는 8, 10, 12의 최소공배수이므로 120이다.

13 최소공배수의 응용(2) : 분수를 자연수로 만드는 가장 작은 수 구하기 p. 47

1 배수, 18, 배수, 최소공배수, 36

2 160 3 210

4 450 5 108

2 n 의 값은 20, 32의 공배
수이다. $20=2^2 \times 5$
 $32=2^5$
따라서 n 의 값 중에서 (최소공배수) $=2^5 \times 5=160$
가장 작은 수는 20, 32의 최소공배수이므로 160이다.

3 n 의 값은 14, 15
의 공배수이다. $14=2 \times 7$
 $15=3 \times 5$
따라서 n 의 값 (최소공배수) $=2 \times 3 \times 5 \times 7=210$
중에서 가장 작은 수는 14, 15의 최소공배수이므로 210이
다.

4 구하는 수는 50, 90
의 최소공배수이므
로 450이다. $50=2 \times 5^2$
 $90=2 \times 3^2 \times 5$
(최소공배수) $=2 \times 3^2 \times 5^2=450$

5 구하는 수는 27, 36의
최소공배수이므로 108
이다. $27=3^3$
 $36=2^2 \times 3^2$
(최소공배수) $=2^2 \times 3^3=108$

STEP 2

기본연산 집중연습 | 10~13 p. 48

1 15 2 8

3 20 4 45

5 1, 2, 3, 6 6 16

7 147 8 60

1 어떤 자연수는 60,
45의 공약수이다. $60=2^2 \times 3 \times 5$
 $45=3^2 \times 5$
따라서 어떤 자연수 (최대공약수) $=3 \times 5=15$
중에서 가장 큰 수는 60과 45의 최대공약수이므로 15이
다.

2 어떤 자연수는
120, 88의 공약 $120=2^3 \times 3 \times 5$
 $88=2^3 \times 11$
수이다. (최대공약수) $=2^3=8$
따라서 어떤 자연수 중에서 가장 큰 수는 120과 88의 최
대공약수이므로 8이다.

3 어떤 자연수는 4, 10의 공
배수이다. $4=2^2$
 $10=2 \times 5$
따라서 어떤 자연수 중에 (최소공배수) $=2^2 \times 5=20$
서 가장 작은 수는 4와 10의 최소공배수이므로 20이다.

4 어떤 자연수는 9, 15의 공
배수이다. $9=3^2$
 $15=3 \times 5$
따라서 어떤 자연수 중에 (최소공배수) $=3^2 \times 5=45$
서 가장 작은 수는 9와 15의 최소공배수이므로 45이다.

5 n 의 값은 24, 30의 공
약수이고 24, 30의 최
대공약수는 6이다. $24=2^3 \times 3$
 $30=2 \times 3 \times 5$
(최대공약수) $=2 \times 3=6$
따라서 자연수 n 의 값은 1, 2, 3, 6이다.

6 n 의 값은 48, 64의 공약
수이다. $48=2^4 \times 3$
 $64=2^6$
따라서 n 의 값 중에서 가 (최대공약수) $=2^4=16$
장 큰 수는 48, 64의 최대공약수이므로 16이다.

$$\begin{array}{r}
 (5) \quad \begin{array}{r} 2^2 \times 3 \times 5 \times 7^2 \\ 3^2 \times 5 \times 7 \\ 2^3 \times 3^2 \times 7^4 \end{array} \\
 \hline
 \text{(최대공약수)} = 3 \times 7 \\
 \text{(최소공배수)} = 2^3 \times 3^2 \times 5 \times 7^4
 \end{array}$$

$$\begin{array}{r}
 (6) \quad \begin{array}{r} 3^2 \times 11 \\ 2^3 \times 3^4 \times 11 \\ 2 \times 3 \times 7 \times 11^3 \end{array} \\
 \hline
 \text{(최대공약수)} = 3 \times 11 \\
 \text{(최소공배수)} = 2^3 \times 3^4 \times 7 \times 11^3
 \end{array}$$

6 (1)
$$\begin{array}{r} 15 = 3 \times 5 \\ 40 = 2^3 \times 5 \end{array}$$

$$\begin{array}{l} \text{(최대공약수)} = 5 \\ \text{(최소공배수)} = 2^3 \times 3 \times 5 = 120 \end{array}$$

(2)
$$\begin{array}{r} 28 = 2^2 \times 7 \\ 64 = 2^6 \end{array}$$

$$\begin{array}{l} \text{(최대공약수)} = 2^2 = 4 \\ \text{(최소공배수)} = 2^6 \times 7 = 448 \end{array}$$

(3)
$$\begin{array}{r} 20 = 2^2 \times 5 \\ 90 = 2 \times 3^2 \times 5 \end{array}$$

$$\begin{array}{l} \text{(최대공약수)} = 2 \times 5 = 10 \\ \text{(최소공배수)} = 2^2 \times 3^2 \times 5 = 180 \end{array}$$

(4)
$$\begin{array}{r} 39 = 3 \times 13 \\ 52 = 2^2 \times 13 \end{array}$$

$$\begin{array}{l} \text{(최대공약수)} = 13 \\ \text{(최소공배수)} = 2^2 \times 3 \times 13 = 156 \end{array}$$

(5)
$$\begin{array}{r} 30 = 2 \times 3 \times 5 \\ 48 = 2^4 \times 3 \\ 72 = 2^3 \times 3^2 \end{array}$$

$$\begin{array}{l} \text{(최대공약수)} = 2 \times 3 = 6 \\ \text{(최소공배수)} = 2^4 \times 3^2 \times 5 = 720 \end{array}$$

(6)
$$\begin{array}{r} 18 = 2 \times 3^2 \\ 45 = 3^2 \times 5 \\ 108 = 2^2 \times 3^3 \end{array}$$

$$\begin{array}{l} \text{(최대공약수)} = 3^2 = 9 \\ \text{(최소공배수)} = 2^2 \times 3^3 \times 5 = 540 \end{array}$$

(7)
$$\begin{array}{r} 42 = 2 \times 3 \times 7 \\ 105 = 3 \times 5 \times 7 \\ 126 = 2 \times 3^2 \times 7 \end{array}$$

$$\begin{array}{l} \text{(최대공약수)} = 3 \times 7 = 21 \\ \text{(최소공배수)} = 2 \times 3^2 \times 5 \times 7 = 630 \end{array}$$

(8)
$$\begin{array}{r} 60 = 2^2 \times 3 \times 5 \\ 84 = 2^2 \times 3 \times 7 \\ 156 = 2^2 \times 3 \times 13 \end{array}$$

$$\begin{array}{l} \text{(최대공약수)} = 2^2 \times 3 = 12 \\ \text{(최소공배수)} = 2^2 \times 3 \times 5 \times 7 \times 13 = 5460 \end{array}$$

7 어떤 자연수는 32, 80의 공약수이다.
$$\begin{array}{r} 32 = 2^5 \\ 80 = 2^4 \times 5 \end{array}$$
따라서 어떤 자연수 중에
$$\begin{array}{r} \text{(최대공약수)} = 2^4 = 16 \end{array}$$
서 가장 큰 수는 32와 80의 최대공약수이므로 16이다.

8 어떤 자연수는 18, 45, 63의 공약수이다.
$$\begin{array}{r} 18 = 2 \times 3^2 \\ 45 = 3^2 \times 5 \\ 63 = 3^2 \times 7 \end{array}$$
따라서 어떤 자연
$$\begin{array}{r} \text{(최대공약수)} = 3^2 = 9 \end{array}$$
수 중에서 가장 큰 수는 18, 45, 63의 최대공약수이므로 9이다.

9 n 의 값은 54, 72의 공약수이고 54, 72의 최대공약수는 18이다.
$$\begin{array}{r} 54 = 2 \times 3^3 \\ 72 = 2^3 \times 3^2 \end{array}$$

$$\begin{array}{r} \text{(최대공약수)} = 2 \times 3^2 = 18 \end{array}$$
따라서 자연수 n 의 값은 1, 2, 3, 6, 9, 18이다.

10 어떤 자연수는 9, 21의 공배수이다.
$$\begin{array}{r} 9 = 3^2 \\ 21 = 3 \times 7 \end{array}$$
따라서 어떤 자연수 중에
$$\begin{array}{r} \text{(최소공배수)} = 3^2 \times 7 = 63 \end{array}$$
서 가장 작은 수는 9와 21의 최소공배수이므로 63이다.

11 어떤 자연수는 4, 10, 15의 공배수이다.
$$\begin{array}{r} 4 = 2^2 \\ 10 = 2 \times 5 \\ 15 = 3 \times 5 \end{array}$$
따라서 어떤 자연수 중에서 가장 작은 수
$$\begin{array}{r} \text{(최소공배수)} = 2^2 \times 3 \times 5 = 60 \end{array}$$
는 4, 10, 15의 최소공배수이므로 60이다.

12 n 의 값은 33, 88의 공배수이다.
$$\begin{array}{r} 33 = 3 \times 11 \\ 88 = 2^3 \times 11 \end{array}$$
따라서 n 의 값 중
$$\begin{array}{r} \text{(최소공배수)} = 2^3 \times 3 \times 11 = 264 \end{array}$$
에서 가장 작은 수는 33, 88의 최소공배수이므로 264이다.

13 구하는 수는 30, 78의 최소공배수이므로 390이다.
$$\begin{array}{r} 30 = 2 \times 3 \times 5 \\ 78 = 2 \times 3 \times 13 \end{array}$$

$$\begin{array}{r} \text{(최소공배수)} = 2 \times 3 \times 5 \times 13 = 390 \end{array}$$

3 정수와 유리수

STEP 1

01 양수와 음수

p. 54

- | | |
|------------------|-----------|
| 1 -300원 | 2 +50000원 |
| 3 +10 °C | 4 +5점 |
| 5 -2시간 | 6 -50명 |
| 7 +4 | 8 -2 |
| 9 $+\frac{1}{2}$ | 10 -5 |

02 정수

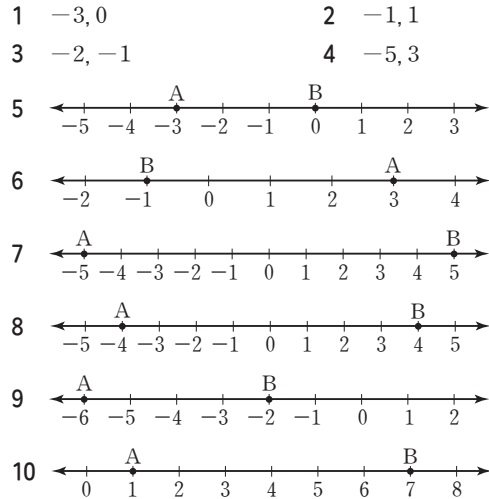
p. 55

- 1 (1) $+11, 6, +50, \frac{6}{2}$ (2) $-\frac{14}{2}$ (3) $+11, 6, +50, \frac{6}{2}$
 (4) $+11, 0, 6, -\frac{14}{2}, +50, \frac{6}{2}$
- 2 (1) $\frac{12}{3}$ (2) $-3, -100$ (3) $\frac{12}{3}$ (4) $-3, 0, -100, \frac{12}{3}$
- 3 $-2, \frac{4}{2}$
- 4 $-\frac{15}{3}, 0, 7, -1$

- 1 $-\frac{14}{2} = -7, \frac{6}{2} = 3$ 이므로 정수이다.
- 2 $\frac{12}{3} = 4$ 이므로 정수이다.
- 3 $\frac{4}{2} = 2$ 이므로 정수는 $-2, \frac{4}{2}$ 이다.
- 4 $-\frac{15}{3} = -5$ 이므로 정수는 $-\frac{15}{3}, 0, 7, -1$ 이다.

03 정수를 수직선 위에 나타내기

p. 56



04 유리수

p. 57 ~ p. 58

- 1 (1) $1, \frac{6}{2}, 3^2$ (2) -5 (3) $1, \frac{6}{2}, 3^2$ (4) $1, 0, -5, \frac{6}{2}, 3^2$
 (5) $1, +\frac{2}{5}, \frac{6}{2}, +1.5, 3^2$ (6) $-2.9, -5$
 (7) $-2.9, +\frac{2}{5}, +1.5$ (8) 0
- 2 (1) $+2, 3$ (2) $-8, -\frac{18}{3}$ (3) $+2, 3$
 (4) $+2, 3, -8, -\frac{18}{3}, 0$ (5) $+2, 4.5, \frac{1}{2}, 3, +\frac{4}{7}$
 (6) $-8, -\frac{18}{3}$ (7) $4.5, \frac{1}{2}, +\frac{4}{7}$ (8) 0
- 3 6명

1 $\frac{6}{2} = 3, 3^2 = 9$

2 $-\frac{18}{3} = -6$

- 3 지효 : 0은 정수이다.
 지민 : 유리수는 양의 유리수, 0, 음의 유리수로 이루어져 있다.
 채영 : $\frac{12}{4} = 3$ 이므로 정수이다.
 찬열 : 음의 정수는 음의 부호 -를 생략하여 나타낼 수 없다.
 예린 : 자연수가 아닌 정수는 0, 음의 정수이다.
 따라서 옳은 것을 말한 학생은 나연, 정국, 나나, 채영, 수호, 선재의 6명이다.

05 유리수를 수직선 위에 나타내기 p. 59 ~ p. 60

1 ① $-\frac{7}{4}$ ② $-\frac{1}{2}$ ③ $+\frac{2}{3}$

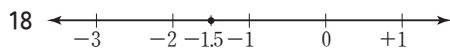
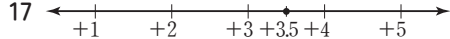
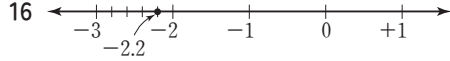
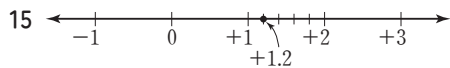
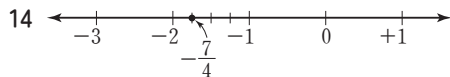
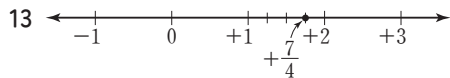
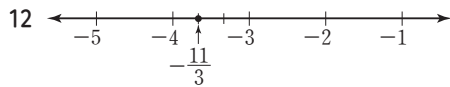
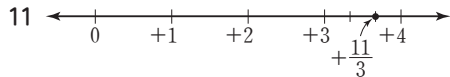
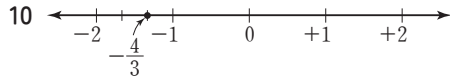
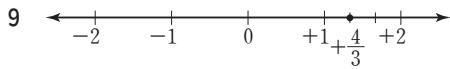
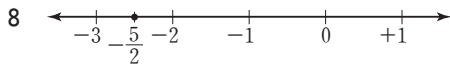
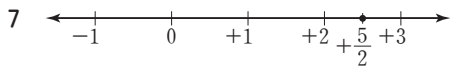
2 ① $-\frac{3}{2}$ ② $+\frac{1}{2}$ ③ $+\frac{4}{3}$

3 A : $-\frac{5}{2}$, B : $\frac{5}{3}$, C : $\frac{7}{2}$

4 A : $-\frac{15}{4}$, B : -2 , C : $-\frac{2}{3}$

5 A : $-\frac{7}{3}$, B : 0, C : $\frac{3}{4}$

6 A : $-\frac{5}{3}$, B : $-\frac{1}{4}$, C : $\frac{7}{3}$



STEP 2

기본연산 집중연습 | 01~05 p. 61 ~ p. 62

- 1 -9°C 2 $+10000\text{원}$
 3 $+30\%$, -20% 4 $+1950\text{ m}$, -300 m
 5 $+2$, -3 6 $+\frac{3}{2}$, $-\frac{3}{2}$
 7 시, 나, 브, 로
 8 풀이 참조
 9 A : $-\frac{9}{2}$, B : -2 , C : $-\frac{1}{3}$, D : $\frac{8}{3}$, E : $\frac{23}{5}$



시나브로

- 7 예 : 정수는 양의 정수, 0, 음의 정수로 이루어져 있다.
 그 : $-\frac{8}{4} = -2$ 이므로 정수이다.
 따라서 옳은 설명이 적혀 있는 글자는 시, 나, 브, 로이다.

8

수의 분류 \ 수	-5	+3	0	1.2
양수	×	○	×	○
음수	○	×	×	×
자연수	×	○	×	×
정수	○	○	○	×
정수가 아닌 유리수	×	×	×	○
유리수	○	○	○	○

수의 분류 \ 수	$-\frac{10}{2}$	$+\frac{1}{3}$	$+\frac{9}{3}$	-8.5
양수	×	○	○	×
음수	○	×	×	○
자연수	×	×	○	×
정수	○	×	○	×
정수가 아닌 유리수	×	○	×	○
유리수	○	○	○	○

STEP 1

06 절댓값의 뜻 p. 63

- 1 5, 5, 5, 5 2 $\frac{4}{3}, \frac{4}{3}, \frac{4}{3}, \frac{4}{3}$
 3 4 4 7
 5 0 6 $\frac{3}{2}$
 7 1 8 $\frac{1}{5}$
 9 0.3 10 $\frac{3}{4}$

07 절댓값의 성질 p. 64 ~ p. 65

- 1 $-4, 4, -4, 4, -4, 4$
 2 $-\frac{3}{2}, \frac{3}{2}, -\frac{3}{2}, \frac{3}{2}, -\frac{3}{2}, \frac{3}{2}$
 3 0 4 $-7, 7$

- 5 -4
 7 $-\frac{9}{4}, \frac{9}{4}$
 9 $-6, 6$
 11 $\bigcirc$
 13 $\times$
 15 $\times$
 17 $4, 3, 6, 5, 7, -6, +5, -4$
 18 $-9, -5, +2, +1, 0$
 19 $-5, 4, -\frac{2}{3}, -\frac{5}{8}, \frac{1}{2}$
 20 $-4.9, 2.7, -\frac{5}{2}, -1, \frac{3}{4}$

- 12 절댓값이 9인 수는 $-9, 9$ 이다.
 13 절댓값이 가장 작은 수는 0 이다.
 14 음수 중 절댓값이 가장 작은 수는 알 수 없다.
 음의 정수 중 절댓값이 가장 작은 수는 -1 이다.
 15 모든 유리수의 절댓값은 0 또는 양수이다.

STEP 2

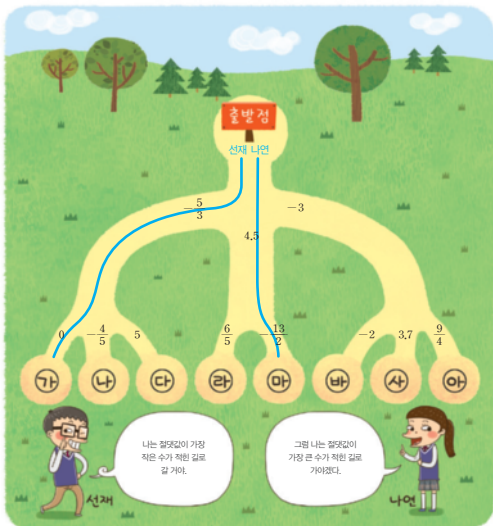
기본연산 집중연습 | 06~07

p. 66 ~ p. 67

- 1 6
 3 6
 5 0
 7 $-6, 6$
 9 -5
 11 선재 : ㉞, 나연 : ㉞

나연, 채영, 지민

11



18 | 정답과 해설

STEP 1

08 분수, 소수의 대소 관계

p. 68

- 1 $<$
 3 $>$
 5 $>$
 7 $<$
 9 $<$
 2 $>$
 4 $>$
 6 $<$
 8 $<$
 10 $>$

09 두 수의 대소 관계

p. 69 ~ p. 70

- 1 $<$
 3 $>$
 5 $<$
 7 $<$
 9 $>$
 11 $12, 12, >, >$
 13 $<$
 15 $<$
 17 $<$
 19 $>$
 21 $>$
 23 $>$
 2 $>$
 4 $<$
 6 $>$
 8 $>$
 10 $<$
 12 $>$
 14 $>$
 16 $>$
 18 $<$
 20 $<$
 22 $<$
 24 $>$

$$12 \quad \left(+\frac{1}{2}, +\frac{1}{3}\right) \Rightarrow \left(+\frac{3}{6}, +\frac{2}{6}\right) \\ \Rightarrow +\frac{3}{6} > +\frac{2}{6} \Rightarrow +\frac{1}{2} > +\frac{1}{3}$$

$$14 \quad \left(-\frac{3}{4}, -\frac{4}{5}\right) \Rightarrow \left(-\frac{15}{20}, -\frac{16}{20}\right) \\ \Rightarrow -\frac{15}{20} > -\frac{16}{20} \Rightarrow -\frac{3}{4} > -\frac{4}{5}$$

$$15 \quad \text{양수는 음수보다 크므로 } -\frac{1}{5} < +\frac{1}{2}$$

$$16 \quad \text{양수는 음수보다 크므로 } +\frac{3}{2} > -\frac{4}{3}$$

$$17 \quad \left(\left|-\frac{4}{7}\right|, \left|-\frac{5}{8}\right|\right) \Rightarrow \left(\frac{4}{7}, \frac{5}{8}\right) \Rightarrow \left(\frac{32}{56}, \frac{35}{56}\right) \\ \Rightarrow \frac{32}{56} < \frac{35}{56} \Rightarrow \left|-\frac{4}{7}\right| < \left|-\frac{5}{8}\right|$$

$$18 \quad \left(\left|-\frac{8}{7}\right|, \left|-\frac{6}{5}\right|\right) \Rightarrow \left(\frac{8}{7}, \frac{6}{5}\right) \Rightarrow \left(\frac{40}{35}, \frac{42}{35}\right) \\ \Rightarrow \frac{40}{35} < \frac{42}{35} \Rightarrow \left|-\frac{8}{7}\right| < \left|-\frac{6}{5}\right|$$

$$19 \quad \left(\frac{3}{4}, 0.7\right) \Rightarrow (0.75, 0.7) \Rightarrow 0.75 > 0.7 \Rightarrow \frac{3}{4} > 0.7$$

$$20 \quad \left(-\frac{5}{9}, -0.3\right) \Rightarrow \left(-\frac{5}{9}, -\frac{3}{10}\right) \Rightarrow \left(-\frac{50}{90}, -\frac{27}{90}\right) \\ \Rightarrow -\frac{50}{90} < -\frac{27}{90} \Rightarrow -\frac{5}{9} < -0.3$$

$$21 \quad \left|-\frac{2}{3}\right| = \frac{2}{3} \text{이므로 } \left(\frac{2}{3}, \frac{1}{4}\right) \Rightarrow \left(\frac{8}{12}, \frac{3}{12}\right) \\ \Rightarrow \frac{8}{12} > \frac{3}{12} \Rightarrow \left|-\frac{2}{3}\right| > \frac{1}{4}$$

$$22 \quad |-3.5| = 3.5 \text{이므로 } \left(\frac{10}{3}, 3.5\right) \Rightarrow \left(\frac{10}{3}, \frac{7}{2}\right) \\ \Rightarrow \left(\frac{20}{6}, \frac{21}{6}\right) \Rightarrow \frac{20}{6} < \frac{21}{6} \Rightarrow \frac{10}{3} < |-3.5|$$

$$23 \quad \left|-\frac{5}{7}\right| = \frac{5}{7}, |0| = 0 \text{이므로 } \left|-\frac{5}{7}\right| > |0|$$

$$24 \quad \left|-\frac{5}{6}\right| = \frac{5}{6} \text{이므로 } \left(\frac{5}{6}, \frac{2}{3}\right) \Rightarrow \left(\frac{5}{6}, \frac{4}{6}\right) \\ \Rightarrow \frac{5}{6} > \frac{4}{6} \Rightarrow \left|-\frac{5}{6}\right| > \frac{2}{3}$$

10 세 수 이상의 대소 관계 p. 71

- | | |
|---|--|
| 1 0, -3 | 2 +1, 0, -7, -8 |
| 3 $\frac{1}{3}, 0, -\frac{2}{3}$ | 4 $0, -\frac{2}{3}, -\frac{3}{4}$ |
| 5 6, 5, 2, -3, -7 | 6 $6, \frac{7}{2}, -\frac{1}{5}, -\frac{2}{3}, -1$ |
| 7 $1.5, +1, -\frac{4}{5}, -\frac{5}{3}, -2$ | 8 $7, +4.1, \frac{3}{7}, -\frac{1}{9}, -3$ |

11 이상, 이하, 초과, 미만 p. 72

- | | |
|-----------------------------|-------------------------|
| 1 3, 4, 5, 8 | 2 $8, \frac{17}{2}, 11$ |
| 3 $5, 7, 10\frac{1}{2}, 15$ | 4 $1, 5\frac{3}{8}, 40$ |
| 5 9, 6, 11, 20 | 6 26, 50 |
| 7 $11, 18, 19\frac{2}{5}$ | 8 58, 41.2 |

12 부등호로 나타내기 p. 73 ~ p. 74

- | | |
|---------------|----------------------|
| 1 $\leq$ | 2 $\geq$ |
| 3 $\geq$ | 4 $<$ |
| 5 $<, \leq$ | 6 $\leq, <$ |
| 7 $>$ | 8 $x < 3$ |
| 9 $x \leq -7$ | 10 $x < \frac{1}{2}$ |

- | | |
|-----------------------|---------------------------------------|
| 11 $x \geq -2$ | 12 $x \leq -3$ |
| 13 $-1 < x < 5$ | 14 $-8 \leq x \leq 6$ |
| 15 $-1 \leq x \leq 5$ | 16 $\frac{1}{3} \leq x < \frac{9}{4}$ |
| 17 $-2.7 < x \leq 2$ | 18 $-3 \leq x < \frac{2}{5}$ |
| 19 $-2 \leq x < 3$ | 20 $-0.7 < x \leq 4$ |

13 두 수 사이에 있는 정수 구하기 p. 75

- | | |
|----------------------|-------------------|
| 1 -1 | 2 -2, -1, 0, 1, 2 |
| 3 -2, -1, 0, 1 | 4 -2, -1, 0, 1 |
| 5 -1, 0, 1, 2 | 6 -2, -1, 0, 1 |
| 7 -5, -4, -3, -2, -1 | 8 3, 4, 5, 6, 7 |

2 $-\frac{11}{5} \leq x < 3$

→ x의 값 중 정수는 -2, -1, 0, 1, 2이다.

3 $-\frac{5}{2} < x \leq 1$

→ x의 값 중 정수는 -2, -1, 0, 1이다.

4 $-\frac{9}{4} < x < \frac{6}{5}$

→ x의 값 중 정수는 -2, -1, 0, 1이다.

5 -1 이상 2 이하인 정수

→ -1, 0, 1, 2

6 -3 초과 $\frac{5}{4}$ 이하인 정수

→ -2, -1, 0, 1

7 $-\frac{16}{3}$ 과 $-\frac{1}{2}$ 사이에 있는 정수

→ -5, -4, -3, -2, -1

8 2.5와 $\frac{23}{3}$ 사이에 있는 정수

→ 3, 4, 5, 6, 7

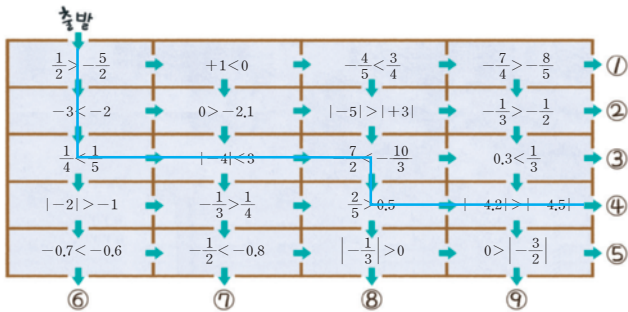
STEP 2

기본연산 집중연습 | 08~13

p. 76 ~ p. 77

- 1 볼펜 2 책
3 ④
4 (1) -3 (2) $\frac{5}{3}$ (3) 0 (4) $+1$
5 (1) $-\frac{8}{3}$ (2) $+\frac{9}{4}$ (3) $-\frac{8}{3}$ (4) -1
6 $2 \leq x \leq 5$ 7 $-9 \leq x < 4$
8 $-3 < x \leq 7$ 9 $-2 \leq x \leq 7$
10 $1.8 < x \leq \frac{21}{5}$ 11 $-\frac{1}{2} < x \leq \frac{3}{2}$

3



STEP 3

기본연산 테스트

p. 78 ~ p. 79

- 1 (1) -30% (2) $+10$ 점 (3) $+5000$ 원 (4) -3
2 (1) $3.5, +10, \frac{11}{4}$ (2) $-\frac{2}{7}, -\frac{10}{5}$ (3) $+10, 0, -\frac{10}{5}$
(4) $-\frac{2}{7}, 3.5, \frac{11}{4}$ (5) $-\frac{2}{7}, 3.5, +10, 0, -\frac{10}{5}, \frac{11}{4}$
3 A : $-\frac{7}{4}$, B : $-\frac{1}{2}$, C : 0 , D : $\frac{4}{3}$
4 (1) 2 (2) $\frac{1}{2}$ (3) $-11, 11$ (4) -5 (5) $-3, 3$ (6) 7
(7) $\frac{2}{3}$ (8) 0
5 $0, \frac{3}{5}, -1, \frac{5}{2}, -8$
6 (1) $\times$ (2) $\times$ (3) $\times$ (4) $\bigcirc$ (5) $\times$
7 (1) $<$ (2) $>$ (3) $<$ (4) $>$ (5) $<$ (6) $>$
8 (1) $\frac{1}{3}, 0, -1$ (2) $-\frac{1}{4}, -\frac{1}{3}, -\frac{1}{2}$
(3) $\frac{5}{3}, +1, 0, -\frac{1}{2}, -3$
9 (1) $-3 \leq x < 1$ (2) $5 < x \leq 10$ (3) $-1 \leq x \leq \frac{11}{6}$
10 (1) $-3, -2, -1, 0, 1, 2$ (2) $-2, -1, 0, 1$

- 5 $|-8|=8, |\frac{5}{2}|=\frac{5}{2}, |0|=0, |-1|=1,$
 $|\frac{3}{5}|=\frac{3}{5}$ 이므로 절댓값이 작은 수부터 차례로 나열하면
 $0, \frac{3}{5}, -1, \frac{5}{2}, -8$ 이다.

- 6 (1) 절댓값이 클수록 수직선에서 그 수를 나타내는 점은 원점에서 멀다.
(2) 모든 유리수의 절댓값은 0 또는 양수이다.
(3) $|-4|=4, |+4|=4$ 이므로 -4 와 $+4$ 의 절댓값의 합은 $4+4=8$
(5) 원점으로부터 거리가 5인 수는 $-5, 5$ 이다.

- 8 (1) (음수) $<0<$ (양수)이므로 $0, -1, \frac{1}{3}$ 을 큰 수부터 차례로 나열하면 $\frac{1}{3}, 0, -1$ 이다.
(2) 음수끼리는 절댓값이 큰 수가 작다.
이때 $|\frac{1}{2}|=\frac{1}{2}, |-\frac{1}{3}|=\frac{1}{3}, |-\frac{1}{4}|=\frac{1}{4}$ 이고
 $\frac{1}{2}=\frac{6}{12}, \frac{1}{3}=\frac{4}{12}, \frac{1}{4}=\frac{3}{12}$ 이므로
 $\frac{1}{2}>\frac{1}{3}>\frac{1}{4}$ 이다.
따라서 $-\frac{1}{2}, -\frac{1}{3}, -\frac{1}{4}$ 을 큰 수부터 차례로 나열하면 $-\frac{1}{4}, -\frac{1}{3}, -\frac{1}{2}$ 이다.
(3) $+1, 0, -3, -\frac{1}{2}, \frac{5}{3}$ 에서
음수는 $-3, -\frac{1}{2}$ 이고 양수는 $+1, \frac{5}{3}$ 이다.
음수끼리는 절댓값이 큰 수가 작으므로 $-3 < -\frac{1}{2}$
양수끼리는 절댓값이 큰 수가 크므로 $+1 < \frac{5}{3}$
따라서 큰 수부터 차례로 나열하면
 $\frac{5}{3}, +1, 0, -\frac{1}{2}, -3$ 이다.

- 10 (1) 수직선 위에 -3 과 $\frac{7}{3}=2\frac{1}{3}$ 을 나타내면 다음과 같다.

따라서 $-3 \leq x < \frac{7}{3}$ 을 만족하는 x의 값 중 정수는 $-3, -2, -1, 0, 1, 2$ 이다.
(2) 수직선 위에 $-\frac{11}{5}=-2\frac{1}{5}$ 과 2 를 나타내면 다음과 같다.

따라서 $-\frac{11}{5} < x < 2$ 를 만족하는 x의 값 중 정수는 $-2, -1, 0, 1$ 이다.

4 정수와 유리수의 계산

STEP 1

01 정수의 덧셈 (1) : 부호가 같은 수 p. 82 ~ p. 83

1 +3, +4	2 -3, -4
3 +7	4 -19
5 +9	6 -14
7 +12	8 -11
9 +23	10 -21
11 +9	12 -12
13 +23	14 -24
15 +30	16 -30
17 +34	18 -34
19 +43	20 -52
21 +102	22 -104
23 +220	24 -181

02 정수의 덧셈 (2) : 부호가 다른 수 p. 84 ~ p. 85

1 +4, +4	2 -4, -4
3 -5	4 +2
5 +4	6 -1
7 +8	8 +3
9 -3	10 -9
11 +5	12 -5
13 -5	14 +20
15 +90	16 -72
17 0	18 0
19 0	20 0
21 -4	22 +10
23 +9	24 -37

STEP 2

기본연산 집중연습 | 01 ~ 02 p. 86

1 +9	2 -19
3 +4	4 -13
5 +2	6 -6
7 -22	8 -9
9 0	

$$\begin{aligned} 1 \quad \ominus &= (+2) + (+1) = +3 \\ \oslash &= (+1) + (+5) = +6 \\ \oplus &= \ominus + \oslash = (+3) + (+6) = +9 \end{aligned}$$

$$\begin{aligned} 2 \quad \ominus &= (-9) + (-3) = -12 \\ \oslash &= (-3) + (-4) = -7 \\ \oplus &= \ominus + \oslash = (-12) + (-7) = -19 \end{aligned}$$

$$\begin{aligned} 3 \quad \ominus &= (-5) + (+1) = -4 \\ \oslash &= (+1) + (+7) = +8 \\ \oplus &= \ominus + \oslash = (-4) + (+8) = +4 \end{aligned}$$

$$\begin{aligned} 4 \quad \ominus &= (+3) + (-6) = -3 \\ \oslash &= (-6) + (-4) = -10 \\ \oplus &= \ominus + \oslash = (-3) + (-10) = -13 \end{aligned}$$

$$\begin{aligned} 5 \quad \ominus &= (+11) + 0 = +11 \\ \oslash &= 0 + (-9) = -9 \\ \oplus &= \ominus + \oslash = (+11) + (-9) = +2 \end{aligned}$$

$$\begin{aligned} 6 \quad \ominus &= (-2) + (+2) = 0 \\ \oslash &= (+2) + (-8) = -6 \\ \oplus &= \ominus + \oslash = 0 + (-6) = -6 \end{aligned}$$

$$\begin{aligned} 7 \quad \ominus &= (-11) + (-9) = -20 \\ \oslash &= (-9) + (+7) = -2 \\ \oplus &= \ominus + \oslash = (-20) + (-2) = -22 \end{aligned}$$

$$\begin{aligned} 8 \quad \ominus &= (-22) + (+13) = -9 \\ \oslash &= (+13) + (-13) = 0 \\ \oplus &= \ominus + \oslash = (-9) + 0 = -9 \end{aligned}$$

$$\begin{aligned} 9 \quad \ominus &= (-6) + 0 = -6 \\ \oslash &= 0 + (+6) = +6 \\ \oplus &= \ominus + \oslash = (-6) + (+6) = 0 \end{aligned}$$

STEP 1

03 분수의 덧셈 p. 87

1 4, 2, 6	2 $\frac{5}{4}$
3 $\frac{7}{3}$	4 $\frac{7}{3}$
5 4, 3, 8, 15, 23	6 $\frac{25}{36}$
7 $\frac{38}{63}$	8 $\frac{23}{45}$
9 $\frac{13}{15}$	10 $\frac{23}{56}$

$$2 \quad \frac{7}{8} + \frac{3}{8} = \frac{10}{8} = \frac{5}{4}$$

$$3 \quad \frac{2}{3} + \frac{5}{3} = \frac{7}{3}$$

$$4 \quad \frac{1}{6} + \frac{13}{6} = \frac{14}{6} = \frac{7}{3}$$

$$6 \quad \frac{5}{18} + \frac{5}{12} = \frac{10}{36} + \frac{15}{36} = \frac{25}{36}$$

$$7 \quad \frac{8}{21} + \frac{2}{9} = \frac{24}{63} + \frac{14}{63} = \frac{38}{63}$$

$$8 \quad \frac{4}{9} + \frac{1}{15} = \frac{20}{45} + \frac{3}{45} = \frac{23}{45}$$

$$9 \quad \frac{1}{6} + \frac{7}{10} = \frac{5}{30} + \frac{21}{30} = \frac{26}{30} = \frac{13}{15}$$

$$10 \quad \frac{2}{7} + \frac{1}{8} = \frac{16}{56} + \frac{7}{56} = \frac{23}{56}$$

04 유리수의 덧셈 (1): 부호가 같은 수 p. 88 ~ p. 89

$$1 \quad 8, 15, +, 8, 15, + \frac{23}{12}$$

$$2 \quad 4, -, 4, - \frac{11}{6}$$

$$3 \quad + \frac{16}{5}$$

$$4 \quad - \frac{6}{7}$$

$$5 \quad + \frac{3}{2}$$

$$6 \quad - \frac{27}{4}$$

$$7 \quad + \frac{17}{20}$$

$$8 \quad - \frac{31}{21}$$

$$9 \quad + \frac{14}{15}$$

$$10 \quad - \frac{53}{56}$$

$$11 \quad + \frac{34}{15}$$

$$12 \quad - \frac{57}{40}$$

$$13 \quad + \frac{25}{24}$$

$$14 \quad - \frac{39}{28}$$

$$15 \quad + \frac{37}{36}$$

$$16 \quad - \frac{61}{56}$$

$$17 \quad + 4.9$$

$$18 \quad - 1.5$$

$$19 \quad + 1.2$$

$$20 \quad - 8.1$$

$$21 \quad + 8 \quad \text{연구} \quad 4.5, 4.5, + 8$$

$$22 \quad - \frac{3}{2} \quad \text{연구} \quad \frac{1}{4}, \frac{1}{4}, - \frac{6}{4}$$

$$23 \quad + 8.8$$

$$24 \quad - 7$$

$$3 \quad \left(+\frac{4}{5}\right) + \left(+\frac{12}{5}\right) = +\frac{16}{5}$$

$$4 \quad \left(-\frac{3}{14}\right) + \left(-\frac{9}{14}\right) = -\frac{12}{14} = -\frac{6}{7}$$

$$5 \quad \left(+\frac{2}{3}\right) + \left(+\frac{5}{6}\right) = \left(+\frac{4}{6}\right) + \left(+\frac{5}{6}\right) = +\frac{9}{6} = +\frac{3}{2}$$

$$6 \quad \left(-\frac{7}{2}\right) + \left(-\frac{13}{4}\right) = \left(-\frac{14}{4}\right) + \left(-\frac{13}{4}\right) = -\frac{27}{4}$$

$$7 \quad \left(+\frac{3}{4}\right) + \left(+\frac{1}{10}\right) = \left(+\frac{15}{20}\right) + \left(+\frac{2}{20}\right) = +\frac{17}{20}$$

$$8 \quad \left(-\frac{1}{7}\right) + \left(-\frac{4}{3}\right) = \left(-\frac{3}{21}\right) + \left(-\frac{28}{21}\right) = -\frac{31}{21}$$

$$9 \quad \left(+\frac{5}{6}\right) + \left(+\frac{1}{10}\right) = \left(+\frac{25}{30}\right) + \left(+\frac{3}{30}\right) \\ = +\frac{28}{30} = +\frac{14}{15}$$

$$10 \quad \left(-\frac{4}{7}\right) + \left(-\frac{3}{8}\right) = \left(-\frac{32}{56}\right) + \left(-\frac{21}{56}\right) = -\frac{53}{56}$$

$$11 \quad \left(+\frac{5}{3}\right) + \left(+\frac{3}{5}\right) = \left(+\frac{25}{15}\right) + \left(+\frac{9}{15}\right) = +\frac{34}{15}$$

$$12 \quad \left(-\frac{5}{8}\right) + \left(-\frac{4}{5}\right) = \left(-\frac{25}{40}\right) + \left(-\frac{32}{40}\right) = -\frac{57}{40}$$

$$13 \quad \left(+\frac{1}{6}\right) + \left(+\frac{7}{8}\right) = \left(+\frac{4}{24}\right) + \left(+\frac{21}{24}\right) = +\frac{25}{24}$$

$$14 \quad \left(-\frac{3}{4}\right) + \left(-\frac{9}{14}\right) = \left(-\frac{21}{28}\right) + \left(-\frac{18}{28}\right) = -\frac{39}{28}$$

$$15 \quad \left(+\frac{4}{9}\right) + \left(+\frac{7}{12}\right) = \left(+\frac{16}{36}\right) + \left(+\frac{21}{36}\right) = +\frac{37}{36}$$

$$16 \quad \left(-\frac{5}{7}\right) + \left(-\frac{3}{8}\right) = \left(-\frac{40}{56}\right) + \left(-\frac{21}{56}\right) = -\frac{61}{56}$$

$$23 \quad \left(+\frac{2}{5}\right) + (+8.4) = (+0.4) + (+8.4) = +8.8$$

$$24 \quad (-6.3) + \left(-\frac{7}{10}\right) = \left(-\frac{63}{10}\right) + \left(-\frac{7}{10}\right) \\ = -\frac{70}{10} = -7$$

05 유리수의 덧셈 (2): 부호가 다른 수 p. 90 ~ p. 91

$$1 \quad 4, 3, -, 4, 3, -\frac{1}{6}$$

$$2 \quad -\frac{9}{4}$$

$$3 \quad +\frac{1}{5}$$

$$4 \quad -\frac{5}{2}$$

$$5 \quad +\frac{1}{4}$$

$$6 \quad -\frac{1}{10}$$

$$7 \quad +\frac{8}{5}$$

$$8 \quad -\frac{7}{3}$$

$$9 \quad -\frac{7}{12}$$

$$11 \quad +\frac{3}{10}$$

$$13 \quad +\frac{1}{15}$$

$$15 \quad +\frac{1}{6}$$

$$17 \quad -3.4$$

$$19 \quad -2.3$$

$$21 \quad +\frac{3}{4}$$

$$23 \quad +5$$

$$10 \quad -\frac{11}{56}$$

$$12 \quad -\frac{7}{12}$$

$$14 \quad +\frac{25}{24}$$

$$16 \quad +\frac{11}{24}$$

$$18 \quad -3.7$$

$$20 \quad -4.9$$

$$22 \quad +2$$

$$24 \quad +\frac{37}{15}$$

$$\begin{aligned} 2 \quad \left(+\frac{1}{4}\right) + \left(-\frac{5}{2}\right) &= \left(+\frac{1}{4}\right) + \left(-\frac{10}{4}\right) \\ &= -\left(\frac{10}{4} - \frac{1}{4}\right) = -\frac{9}{4} \end{aligned}$$

$$4 \quad \left(+\frac{1}{4}\right) + \left(-\frac{11}{4}\right) = -\left(\frac{11}{4} - \frac{1}{4}\right) = -\frac{10}{4} = -\frac{5}{2}$$

$$\begin{aligned} 5 \quad \left(-\frac{1}{2}\right) + \left(+\frac{3}{4}\right) &= \left(-\frac{2}{4}\right) + \left(+\frac{3}{4}\right) \\ &= +\left(\frac{3}{4} - \frac{2}{4}\right) = +\frac{1}{4} \end{aligned}$$

$$\begin{aligned} 6 \quad \left(-\frac{2}{5}\right) + \left(+\frac{3}{10}\right) &= \left(-\frac{4}{10}\right) + \left(+\frac{3}{10}\right) \\ &= -\left(\frac{4}{10} - \frac{3}{10}\right) = -\frac{1}{10} \end{aligned}$$

$$\begin{aligned} 7 \quad (+2) + \left(-\frac{2}{5}\right) &= \left(+\frac{10}{5}\right) + \left(-\frac{2}{5}\right) \\ &= +\left(\frac{10}{5} - \frac{2}{5}\right) = +\frac{8}{5} \end{aligned}$$

$$\begin{aligned} 8 \quad \left(+\frac{8}{3}\right) + (-5) &= \left(+\frac{8}{3}\right) + \left(-\frac{15}{3}\right) \\ &= -\left(\frac{15}{3} - \frac{8}{3}\right) = -\frac{7}{3} \end{aligned}$$

$$\begin{aligned} 9 \quad \left(+\frac{1}{4}\right) + \left(-\frac{5}{6}\right) &= \left(+\frac{3}{12}\right) + \left(-\frac{10}{12}\right) \\ &= -\left(\frac{10}{12} - \frac{3}{12}\right) = -\frac{7}{12} \end{aligned}$$

$$\begin{aligned} 10 \quad \left(+\frac{3}{8}\right) + \left(-\frac{4}{7}\right) &= \left(+\frac{21}{56}\right) + \left(-\frac{32}{56}\right) \\ &= -\left(\frac{32}{56} - \frac{21}{56}\right) = -\frac{11}{56} \end{aligned}$$

$$11 \quad \left(+\frac{7}{10}\right) + \left(-\frac{2}{5}\right) = \left(+\frac{7}{10}\right) + \left(-\frac{4}{10}\right) = +\frac{3}{10}$$

$$12 \quad \left(+\frac{1}{6}\right) + \left(-\frac{3}{4}\right) = \left(+\frac{2}{12}\right) + \left(-\frac{9}{12}\right) = -\frac{7}{12}$$

$$13 \quad \left(-\frac{3}{5}\right) + \left(+\frac{2}{3}\right) = \left(-\frac{9}{15}\right) + \left(+\frac{10}{15}\right) = +\frac{1}{15}$$

$$14 \quad \left(-\frac{5}{8}\right) + \left(+\frac{5}{3}\right) = \left(-\frac{15}{24}\right) + \left(+\frac{40}{24}\right) = +\frac{25}{24}$$

$$15 \quad \left(-\frac{3}{2}\right) + \left(+\frac{5}{3}\right) = \left(-\frac{9}{6}\right) + \left(+\frac{10}{6}\right) = +\frac{1}{6}$$

$$16 \quad \left(-\frac{1}{6}\right) + \left(+\frac{5}{8}\right) = \left(-\frac{4}{24}\right) + \left(+\frac{15}{24}\right) = +\frac{11}{24}$$

$$17 \quad (+2.4) + (-5.8) = -(5.8 - 2.4) = -3.4$$

$$18 \quad (-4.3) + (+0.6) = -(4.3 - 0.6) = -3.7$$

$$19 \quad (+1.9) + (-4.2) = -(4.2 - 1.9) = -2.3$$

$$20 \quad (-10.4) + (+5.5) = -(10.4 - 5.5) = -4.9$$

$$\begin{aligned} 21 \quad (+2.5) + \left(-\frac{7}{4}\right) &= \left(+\frac{5}{2}\right) + \left(-\frac{7}{4}\right) \\ &= \left(+\frac{10}{4}\right) + \left(-\frac{7}{4}\right) = +\frac{3}{4} \end{aligned}$$

$$22 \quad (-0.75) + \left(+\frac{11}{4}\right) = \left(-\frac{3}{4}\right) + \left(+\frac{11}{4}\right) = +\frac{8}{4} = +2$$

$$23 \quad (-1.4) + \left(+\frac{32}{5}\right) = \left(-\frac{7}{5}\right) + \left(+\frac{32}{5}\right) = +\frac{25}{5} = +5$$

$$\begin{aligned} 24 \quad \left(+\frac{8}{3}\right) + (-0.2) &= \left(+\frac{8}{3}\right) + \left(-\frac{1}{5}\right) \\ &= \left(+\frac{40}{15}\right) + \left(-\frac{3}{15}\right) = +\frac{37}{15} \end{aligned}$$

06 덧셈의 계산 법칙

p. 92

$$1 \quad -3, -3, -5 \quad (\text{가}) \text{ 덧셈의 교환법칙} \quad (\text{나}) \text{ 덧셈의 결합법칙}$$

$$2 \quad -2, -2, +2, -2, 0$$

(가) 덧셈의 교환법칙 (나) 덧셈의 결합법칙

$$3 \quad +\frac{2}{5}, +\frac{2}{5}, -\frac{2}{5}, -\frac{23}{20} \quad 4 \quad -4, +6$$

07 덧셈의 계산 법칙을 이용한 계산

p. 93

- | | |
|------------------|------------------|
| 1 0 | 2 +3 |
| 3 +5 | 4 +1 |
| 5 $+\frac{1}{3}$ | 6 $-\frac{1}{4}$ |
| 7 -6 | 8 -10 |

$$\begin{aligned}
 1 & (+3)+(-4)+(+1) \\
 & =(+3)+(+1)+(-4) \\
 & =\{(+3)+(+1)\}+(-4) \\
 & =(+4)+(-4)=0
 \end{aligned}$$

$$\begin{aligned}
 2 & (-5)+(+11)+(-3) \\
 & =(+11)+(-5)+(-3) \\
 & =(+11)+\{(-5)+(-3)\} \\
 & =(+11)+(-8)=+3
 \end{aligned}$$

$$\begin{aligned}
 3 & \left(+\frac{1}{4}\right)+(+7)+\left(-\frac{9}{4}\right) \\
 & =\left(+\frac{1}{4}\right)+\left(-\frac{9}{4}\right)+(+7) \\
 & =\left\{\left(+\frac{1}{4}\right)+\left(-\frac{9}{4}\right)\right\}+(+7) \\
 & =(-2)+(+7)=+5
 \end{aligned}$$

$$\begin{aligned}
 4 & \left(-\frac{5}{2}\right)+(+4)+\left(-\frac{1}{2}\right) \\
 & =\left(-\frac{5}{2}\right)+\left(-\frac{1}{2}\right)+(+4) \\
 & =\left\{\left(-\frac{5}{2}\right)+\left(-\frac{1}{2}\right)\right\}+(+4) \\
 & =(-3)+(+4)=+1
 \end{aligned}$$

$$\begin{aligned}
 5 & \left(+\frac{3}{5}\right)+\left(-\frac{2}{3}\right)+\left(+\frac{2}{5}\right) \\
 & =\left(+\frac{3}{5}\right)+\left(+\frac{2}{5}\right)+\left(-\frac{2}{3}\right) \\
 & =\left\{\left(+\frac{3}{5}\right)+\left(+\frac{2}{5}\right)\right\}+\left(-\frac{2}{3}\right) \\
 & =(+1)+\left(-\frac{2}{3}\right)=+\frac{1}{3}
 \end{aligned}$$

$$\begin{aligned}
 6 & \left(-\frac{1}{3}\right)+\left(+\frac{7}{4}\right)+\left(-\frac{5}{3}\right) \\
 & =\left(-\frac{1}{3}\right)+\left(-\frac{5}{3}\right)+\left(+\frac{7}{4}\right) \\
 & =\left\{\left(-\frac{1}{3}\right)+\left(-\frac{5}{3}\right)\right\}+\left(+\frac{7}{4}\right) \\
 & =(-2)+\left(+\frac{7}{4}\right)=-\frac{1}{4}
 \end{aligned}$$

$$\begin{aligned}
 7 & (-7)+(+9)+(+3)+(-11) \\
 & =(-7)+(-11)+(+9)+(+3) \\
 & =\{(-7)+(-11)\}+\{(+9)+(+3)\} \\
 & =(-18)+(+12)=-6
 \end{aligned}$$

$$\begin{aligned}
 8 & (+9)+(-2)+(-19)+(+2) \\
 & =(+9)+(+2)+(-2)+(-19) \\
 & =\{(+9)+(+2)\}+\{(-2)+(-19)\} \\
 & =(+11)+(-21)=-10
 \end{aligned}$$

STEP 2

기본연산 집중연습 | 03~07

p. 94 ~ p. 95

1 과자

$$2 +\frac{7}{3}$$

$$3 -7, -\frac{26}{5}$$

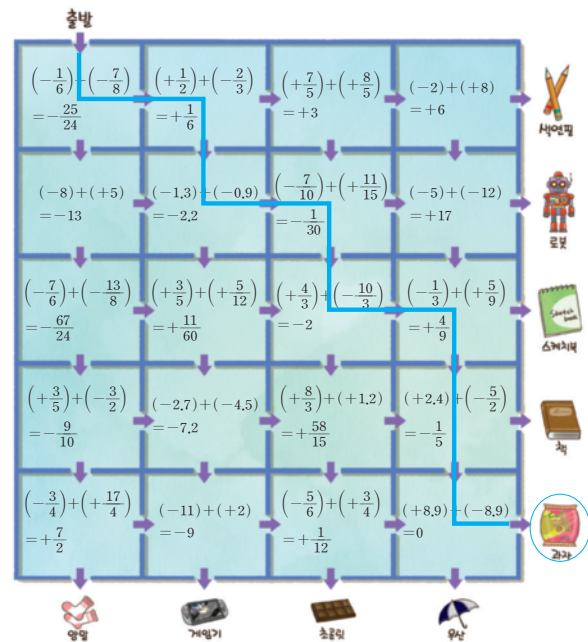
$$4 -\frac{5}{28}, +\frac{65}{28}$$

$$5 +12, +\frac{68}{9}$$

$$6 -\frac{5}{4}, -\frac{11}{12}$$

$$7 -\frac{7}{10}, -\frac{13}{10}$$

1



STEP 1

08 정수의 뺄셈(1): (어떤 수) - (양수) p. 96 ~ p. 97

$$1 +, +4$$

$$2 +3$$

$$3 -3$$

$$4 -2$$

$$5 -2$$

$$6 -4$$

$$7 -8$$

$$8 -4$$

$$9 -21$$

$$10 -14$$

$$11 -25$$

$$12 -20$$

$$13 -2$$

$$14 -14$$

$$15 -10$$

$$16 -1$$

$$17 -6$$

$$18 -8$$

19 -53	20 -35	21 -57
22 -21	23 -11	24 -20
25 0	26 0	27 0
28 -36	29 -18	30 -66
31 +6	32 +15	33 -8
34 -5	35 -1	36 -13

- 7 $(-6) - (+2) = (-6) + (-2) = -8$
- 8 $(-1) - (+3) = (-1) + (-3) = -4$
- 9 $(-12) - (+9) = (-12) + (-9) = -21$
- 10 $(-4) - (+10) = (-4) + (-10) = -14$
- 11 $(-15) - (+10) = (-15) + (-10) = -25$
- 12 $(-9) - (+11) = (-9) + (-11) = -20$
- 13 $(-1) - (+1) = (-1) + (-1) = -2$
- 14 $(-7) - (+7) = (-7) + (-7) = -14$
- 15 $(-5) - (+5) = (-5) + (-5) = -10$
- 19 $(-19) - (+34) = (-19) + (-34) = -53$
- 20 $(-17) - (+18) = (-17) + (-18) = -35$
- 21 $(-21) - (+36) = (-21) + (-36) = -57$
- 22 $(-5) - (+16) = (-5) + (-16) = -21$
- 23 $(-10) - (+1) = (-10) + (-1) = -11$
- 24 $(-17) - (+3) = (-17) + (-3) = -20$
- 25 $(+3) - (+3) = (+3) + (-3) = 0$
- 26 $(+7) - (+7) = (+7) + (-7) = 0$
- 27 $(+19) - (+19) = (+19) + (-19) = 0$
- 28 $(-18) - (+18) = (-18) + (-18) = -36$
- 29 $(-9) - (+9) = (-9) + (-9) = -18$
- 30 $(-33) - (+33) = (-33) + (-33) = -66$
- 34 $0 - (+5) = 0 + (-5) = -5$

$$35 \quad 0 - (+1) = 0 + (-1) = -1$$

$$36 \quad 0 - (+13) = 0 + (-13) = -13$$

09 정수의 뺄셈 (2) : (어떤 수) - (음수) p. 98 ~ p. 99

1 +, +22	2 +9	3 +10
4 +15	5 +20	6 +12
7 +7	8 +10	9 -7
10 -9	11 +17	12 -3
13 0	14 0	15 0
16 +15	17 +14	18 +11
19 +27	20 +50	21 +28
22 +14	23 +20	24 +30
25 -12	26 -1	27 +6
28 -26	29 +3	30 -13
31 0	32 0	33 0
34 +29	35 +13	36 +8

- 2 $(+7) - (-2) = (+7) + (+2) = +9$
- 3 $(+4) - (-6) = (+4) + (+6) = +10$
- 4 $(+5) - (-10) = (+5) + (+10) = +15$
- 5 $(+12) - (-8) = (+12) + (+8) = +20$
- 6 $(+3) - (-9) = (+3) + (+9) = +12$
- 7 $(-1) - (-8) = (-1) + (+8) = +7$
- 8 $(-5) - (-15) = (-5) + (+15) = +10$
- 9 $(-16) - (-9) = (-16) + (+9) = -7$
- 10 $(-12) - (-3) = (-12) + (+3) = -9$
- 11 $(-8) - (-25) = (-8) + (+25) = +17$
- 12 $(-30) - (-27) = (-30) + (+27) = -3$
- 13 $(-1) - (-1) = (-1) + (+1) = 0$
- 14 $(-7) - (-7) = (-7) + (+7) = 0$
- 15 $(-20) - (-20) = (-20) + (+20) = 0$
- 16 $(+6) - (-9) = (+6) + (+9) = +15$

- 17 $(+4) - (-10) = (+4) + (+10) = +14$
- 18 $(+3) - (-8) = (+3) + (+8) = +11$
- 19 $(+17) - (-10) = (+17) + (+10) = +27$
- 20 $(+18) - (-32) = (+18) + (+32) = +50$
- 21 $(+19) - (-9) = (+19) + (+9) = +28$
- 22 $(+7) - (-7) = (+7) + (+7) = +14$
- 23 $(+10) - (-10) = (+10) + (+10) = +20$
- 24 $(+15) - (-15) = (+15) + (+15) = +30$
- 25 $(-27) - (-15) = (-27) + (+15) = -12$
- 26 $(-5) - (-4) = (-5) + (+4) = -1$
- 27 $(-11) - (-17) = (-11) + (+17) = +6$
- 28 $(-38) - (-12) = (-38) + (+12) = -26$
- 29 $(-7) - (-10) = (-7) + (+10) = +3$
- 30 $(-15) - (-2) = (-15) + (+2) = -13$
- 31 $(-4) - (-4) = (-4) + (+4) = 0$
- 32 $(-9) - (-9) = (-9) + (+9) = 0$
- 33 $(-8) - (-8) = (-8) + (+8) = 0$
- 34 $0 - (-29) = 0 + (+29) = +29$
- 35 $0 - (-13) = 0 + (+13) = +13$
- 36 $0 - (-8) = 0 + (+8) = +8$

STEP 2

기본연산 집중연습 | 08~09

p. 100

- | | |
|-------|-------|
| 1 -7 | 2 +15 |
| 3 -19 | 4 -31 |
| 5 -13 | 6 -8 |
| 7 +43 | 8 +6 |
| 9 -15 | |

- 1 $\ominus = (+2) - (+7) = (+2) + (-7) = -5$
 $\oslash = (+7) - (+5) = (+7) + (-5) = +2$
 $\oplus = \ominus - \oslash = (-5) - (+2)$
 $= (-5) + (-2) = -7$
- 2 $\ominus = (+10) - (-3) = (+10) + (+3) = +13$
 $\oslash = (-3) - (-1) = (-3) + (+1) = -2$
 $\oplus = \ominus - \oslash = (+13) - (-2)$
 $= (+13) + (+2) = +15$
- 3 $\ominus = (-8) - (+3) = (-8) + (-3) = -11$
 $\oslash = (+3) - (-5) = (+3) + (+5) = +8$
 $\oplus = \ominus - \oslash = (-11) - (+8)$
 $= (-11) + (-8) = -19$
- 4 $\ominus = (-12) - (+9) = (-12) + (-9) = -21$
 $\oslash = (+9) - (-1) = (+9) + (+1) = +10$
 $\oplus = \ominus - \oslash = (-21) - (+10)$
 $= (-21) + (-10) = -31$
- 5 $\ominus = (-2) - (+3) = (-2) + (-3) = -5$
 $\oslash = (+3) - (-5) = (+3) + (+5) = +8$
 $\oplus = \ominus - \oslash = (-5) - (+8)$
 $= (-5) + (-8) = -13$
- 6 $\ominus = (-11) - (-2) = (-11) + (+2) = -9$
 $\oslash = (-2) - (-1) = (-2) + (+1) = -1$
 $\oplus = \ominus - \oslash = (-9) - (-1)$
 $= (-9) + (+1) = -8$
- 7 $\ominus = (+3) - (-19) = (+3) + (+19) = +22$
 $\oslash = (-19) - (+2) = (-19) + (-2) = -21$
 $\oplus = \ominus - \oslash = (+22) - (-21)$
 $= (+22) + (+21) = +43$
- 8 $\ominus = (-23) - (-6) = (-23) + (+6) = -17$
 $\oslash = (-6) - (+17) = (-6) + (-17) = -23$
 $\oplus = \ominus - \oslash = (-17) - (-23)$
 $= (-17) + (+23) = +6$
- 9 $\ominus = (-8) - 0 = -8$
 $\oslash = 0 - (-7) = 0 + (+7) = +7$
 $\oplus = \ominus - \oslash = (-8) - (+7)$
 $= (-8) + (-7) = -15$

10 분수의 뺄셈

p. 101

1 $7, 5, 2, \frac{1}{2}$

2 $\frac{1}{3}$

3 $\frac{3}{5}$

4 $\frac{5}{6}$

5 $7, 3, 14, 9, 5$

6 $\frac{11}{63}$

7 $\frac{13}{24}$

8 $\frac{7}{12}$

9 $\frac{19}{36}$

10 $\frac{29}{42}$

6 $\frac{8}{9} - \frac{5}{7} = \frac{56}{63} - \frac{45}{63} = \frac{11}{63}$

7 $\frac{11}{12} - \frac{3}{8} = \frac{22}{24} - \frac{9}{24} = \frac{13}{24}$

8 $\frac{11}{6} - \frac{5}{4} = \frac{22}{12} - \frac{15}{12} = \frac{7}{12}$

9 $\frac{3}{4} - \frac{2}{9} = \frac{27}{36} - \frac{8}{36} = \frac{19}{36}$

10 $\frac{13}{14} - \frac{5}{21} = \frac{39}{42} - \frac{10}{42} = \frac{29}{42}$

11 유리수의 뺄셈(1): (어떤 수) - (양수) p. 102 ~ p. 103

1 $+, +, +, 4, +\frac{2}{3}$

2 $+\frac{3}{2}$

3 $+\frac{1}{5}$

4 $-\frac{9}{20}$

5 $+, -, -\frac{8}{7}$

6 $-\frac{3}{2}$

7 $-\frac{5}{4}$

8 $-\frac{34}{15}$

9 0

10 0

11 $-\frac{1}{9}$

12 $+\frac{5}{8}$

13 $-\frac{7}{6}$

14 $-\frac{1}{14}$

15 $-\frac{34}{21}$

16 $-\frac{17}{12}$

17 $-\frac{17}{20}$

18 $-\frac{29}{14}$

19 -3.2

20 -18.5

21 $-\frac{7}{3}$

22 $-\frac{8}{11}$

23 -0.6 연구 $2.5, 2.5, -2.5, -0.6$

24 -5.5

2 $\left(+\frac{7}{4}\right) - \left(+\frac{1}{4}\right) = \left(+\frac{7}{4}\right) + \left(-\frac{1}{4}\right)$
 $= +\frac{6}{4} = +\frac{3}{2}$

3 $\left(+\frac{1}{2}\right) - \left(+\frac{3}{10}\right) = \left(+\frac{1}{2}\right) + \left(-\frac{3}{10}\right)$
 $= \left(+\frac{5}{10}\right) + \left(-\frac{3}{10}\right)$
 $= +\frac{2}{10} = +\frac{1}{5}$

4 $\left(+\frac{3}{4}\right) - \left(+\frac{6}{5}\right) = \left(+\frac{3}{4}\right) + \left(-\frac{6}{5}\right)$
 $= \left(+\frac{15}{20}\right) + \left(-\frac{24}{20}\right) = -\frac{9}{20}$

6 $\left(-\frac{7}{8}\right) - \left(+\frac{5}{8}\right) = \left(-\frac{7}{8}\right) + \left(-\frac{5}{8}\right)$
 $= -\frac{12}{8} = -\frac{3}{2}$

7 $\left(-\frac{3}{4}\right) - \left(+\frac{1}{2}\right) = \left(-\frac{3}{4}\right) + \left(-\frac{1}{2}\right)$
 $= \left(-\frac{3}{4}\right) + \left(-\frac{2}{4}\right) = -\frac{5}{4}$

8 $\left(-\frac{8}{5}\right) - \left(+\frac{2}{3}\right) = \left(-\frac{8}{5}\right) + \left(-\frac{2}{3}\right)$
 $= \left(-\frac{24}{15}\right) + \left(-\frac{10}{15}\right) = -\frac{34}{15}$

9 $\left(+\frac{4}{9}\right) - \left(+\frac{4}{9}\right) = \left(+\frac{4}{9}\right) + \left(-\frac{4}{9}\right) = 0$

10 $\left(+\frac{3}{8}\right) - \left(+\frac{3}{8}\right) = \left(+\frac{3}{8}\right) + \left(-\frac{3}{8}\right) = 0$

11 $\left(+\frac{5}{9}\right) - \left(+\frac{2}{3}\right) = \left(+\frac{5}{9}\right) + \left(-\frac{2}{3}\right)$
 $= \left(+\frac{5}{9}\right) + \left(-\frac{6}{9}\right) = -\frac{1}{9}$

12 $\left(+\frac{3}{2}\right) - \left(+\frac{7}{8}\right) = \left(+\frac{3}{2}\right) + \left(-\frac{7}{8}\right)$
 $= \left(+\frac{12}{8}\right) + \left(-\frac{7}{8}\right) = +\frac{5}{8}$

13 $\left(+\frac{4}{3}\right) - \left(+\frac{5}{2}\right) = \left(+\frac{4}{3}\right) + \left(-\frac{5}{2}\right)$
 $= \left(+\frac{8}{6}\right) + \left(-\frac{15}{6}\right) = -\frac{7}{6}$

14 $\left(+\frac{2}{7}\right) - \left(+\frac{5}{14}\right) = \left(+\frac{2}{7}\right) + \left(-\frac{5}{14}\right)$
 $= \left(+\frac{4}{14}\right) + \left(-\frac{5}{14}\right) = -\frac{1}{14}$

15 $\left(-\frac{9}{7}\right) - \left(+\frac{1}{3}\right) = \left(-\frac{9}{7}\right) + \left(-\frac{1}{3}\right)$
 $= \left(-\frac{27}{21}\right) + \left(-\frac{7}{21}\right) = -\frac{34}{21}$

$$16 \quad \left(-\frac{2}{3}\right) - \left(+\frac{3}{4}\right) = \left(-\frac{2}{3}\right) + \left(-\frac{3}{4}\right) \\ = \left(-\frac{8}{12}\right) + \left(-\frac{9}{12}\right) = -\frac{17}{12}$$

$$17 \quad \left(-\frac{4}{5}\right) - \left(+\frac{1}{20}\right) = \left(-\frac{4}{5}\right) + \left(-\frac{1}{20}\right) \\ = \left(-\frac{16}{20}\right) + \left(-\frac{1}{20}\right) = -\frac{17}{20}$$

$$18 \quad \left(-\frac{3}{2}\right) - \left(+\frac{4}{7}\right) = \left(-\frac{3}{2}\right) + \left(-\frac{4}{7}\right) \\ = \left(-\frac{21}{14}\right) + \left(-\frac{8}{14}\right) = -\frac{29}{14}$$

$$19 \quad (+1.7) - (+4.9) = (+1.7) + (-4.9) = -3.2$$

$$20 \quad (-8.1) - (+10.4) = (-8.1) + (-10.4) = -18.5$$

$$21 \quad \left(-\frac{7}{6}\right) - \left(+\frac{7}{6}\right) = \left(-\frac{7}{6}\right) + \left(-\frac{7}{6}\right) = -\frac{14}{6} = -\frac{7}{3}$$

$$22 \quad \left(-\frac{4}{11}\right) - \left(+\frac{4}{11}\right) = \left(-\frac{4}{11}\right) + \left(-\frac{4}{11}\right) = -\frac{8}{11}$$

$$24 \quad (-4.4) - \left(+\frac{11}{10}\right) = (-4.4) - (+1.1) \\ = (-4.4) + (-1.1) = -5.5$$

12 유리수의 뺄셈(2): (어떤 수) - (음수) p. 104 ~ p. 105

$$1 \quad +, +, +, 10, +\frac{5}{2}$$

$$2 \quad +5$$

$$3 \quad +\frac{41}{40}$$

$$4 \quad +\frac{43}{30}$$

$$5 \quad +, +, +\frac{1}{7}$$

$$6 \quad -1$$

$$7 \quad -\frac{1}{12}$$

$$8 \quad -\frac{29}{18}$$

$$9 \quad -\frac{35}{24}$$

$$10 \quad +\frac{3}{20}$$

$$11 \quad +\frac{13}{6}$$

$$12 \quad +\frac{11}{6}$$

$$13 \quad -\frac{1}{20}$$

$$14 \quad -\frac{5}{28}$$

$$15 \quad -\frac{23}{15}$$

$$16 \quad +\frac{13}{36}$$

$$17 \quad +7.2$$

$$18 \quad +1.3$$

$$19 \quad -\frac{9}{4} \quad \text{연구} \quad \frac{5}{2}, \frac{5}{2}, 4, -\frac{9}{4}$$

$$20 \quad +\frac{21}{8}$$

$$21 \quad +4.3$$

$$22 \quad +0.2$$

$$23 \quad +\frac{4}{3}$$

$$24 \quad 0$$

$$2 \quad \left(+\frac{1}{2}\right) - \left(-\frac{9}{2}\right) = \left(+\frac{1}{2}\right) + \left(+\frac{9}{2}\right) = +\frac{10}{2} = +5$$

$$3 \quad \left(+\frac{9}{10}\right) - \left(-\frac{1}{8}\right) = \left(+\frac{9}{10}\right) + \left(+\frac{1}{8}\right) \\ = \left(+\frac{36}{40}\right) + \left(+\frac{5}{40}\right) = +\frac{41}{40}$$

$$4 \quad \left(+\frac{5}{6}\right) - \left(-\frac{3}{5}\right) = \left(+\frac{5}{6}\right) + \left(+\frac{3}{5}\right) \\ = \left(+\frac{25}{30}\right) + \left(+\frac{18}{30}\right) = +\frac{43}{30}$$

$$6 \quad \left(-\frac{7}{5}\right) - \left(-\frac{2}{5}\right) = \left(-\frac{7}{5}\right) + \left(+\frac{2}{5}\right) = -\frac{5}{5} = -1$$

$$7 \quad \left(-\frac{3}{4}\right) - \left(-\frac{2}{3}\right) = \left(-\frac{3}{4}\right) + \left(+\frac{2}{3}\right) \\ = \left(-\frac{9}{12}\right) + \left(+\frac{8}{12}\right) = -\frac{1}{12}$$

$$8 \quad \left(-\frac{5}{2}\right) - \left(-\frac{8}{9}\right) = \left(-\frac{5}{2}\right) + \left(+\frac{8}{9}\right) \\ = \left(-\frac{45}{18}\right) + \left(+\frac{16}{18}\right) = -\frac{29}{18}$$

$$9 \quad \left(-\frac{11}{6}\right) - \left(-\frac{3}{8}\right) = \left(-\frac{11}{6}\right) + \left(+\frac{3}{8}\right) \\ = \left(-\frac{44}{24}\right) + \left(+\frac{9}{24}\right) = -\frac{35}{24}$$

$$10 \quad \left(-\frac{3}{5}\right) - \left(-\frac{3}{4}\right) = \left(-\frac{3}{5}\right) + \left(+\frac{3}{4}\right) \\ = \left(-\frac{12}{20}\right) + \left(+\frac{15}{20}\right) = +\frac{3}{20}$$

$$11 \quad \left(+\frac{4}{3}\right) - \left(-\frac{5}{6}\right) = \left(+\frac{4}{3}\right) + \left(+\frac{5}{6}\right) \\ = \left(+\frac{8}{6}\right) + \left(+\frac{5}{6}\right) = +\frac{13}{6}$$

$$12 \quad \left(+\frac{3}{2}\right) - \left(-\frac{1}{3}\right) = \left(+\frac{3}{2}\right) + \left(+\frac{1}{3}\right) \\ = \left(+\frac{9}{6}\right) + \left(+\frac{2}{6}\right) = +\frac{11}{6}$$

$$13 \quad \left(-\frac{4}{5}\right) - \left(-\frac{3}{4}\right) = \left(-\frac{4}{5}\right) + \left(+\frac{3}{4}\right) \\ = \left(-\frac{16}{20}\right) + \left(+\frac{15}{20}\right) = -\frac{1}{20}$$

$$14 \quad \left(-\frac{3}{4}\right) - \left(-\frac{4}{7}\right) = \left(-\frac{3}{4}\right) + \left(+\frac{4}{7}\right) \\ = \left(-\frac{21}{28}\right) + \left(+\frac{16}{28}\right) = -\frac{5}{28}$$

$$15 \quad \left(-\frac{11}{5}\right) - \left(-\frac{2}{3}\right) = \left(-\frac{11}{5}\right) + \left(+\frac{2}{3}\right) \\ = \left(-\frac{33}{15}\right) + \left(+\frac{10}{15}\right) = -\frac{23}{15}$$

$$16 \quad \left(-\frac{5}{12}\right) - \left(-\frac{7}{9}\right) = \left(-\frac{5}{12}\right) + \left(+\frac{7}{9}\right) \\ = \left(-\frac{15}{36}\right) + \left(+\frac{28}{36}\right) = +\frac{13}{36}$$

$$17 \quad (+5.5) - (-1.7) = (+5.5) + (+1.7) = +7.2$$

$$18 \quad (-3.2) - (-4.5) = (-3.2) + (+4.5) = +1.3$$

$$20 \quad \left(+\frac{9}{8}\right) - \left(-1.5\right) = \left(+\frac{9}{8}\right) + \left(+1.5\right) \\ = \left(+\frac{9}{8}\right) + \left(+\frac{3}{2}\right) \\ = \left(+\frac{9}{8}\right) + \left(+\frac{12}{8}\right) = +\frac{21}{8}$$

$$21 \quad (+3.7) - \left(-\frac{3}{5}\right) = (+3.7) + \left(+\frac{3}{5}\right) \\ = (+3.7) + (+0.6) = +4.3$$

$$22 \quad \left(-\frac{2}{5}\right) - (-0.6) = \left(-\frac{2}{5}\right) + (+0.6) \\ = (-0.4) + (+0.6) = +0.2$$

$$23 \quad \left(+\frac{2}{3}\right) - \left(-\frac{2}{3}\right) = \left(+\frac{2}{3}\right) + \left(+\frac{2}{3}\right) = +\frac{4}{3}$$

$$24 \quad \left(-\frac{6}{7}\right) - \left(-\frac{6}{7}\right) = \left(-\frac{6}{7}\right) + \left(+\frac{6}{7}\right) = 0$$

STEP 2

기본연산 집중연습 | 10~12

p. 106 ~ p. 107

1 설악산

$$2 \quad -\frac{5}{12}$$

$$4 \quad +\frac{1}{9}, +\frac{11}{18}$$

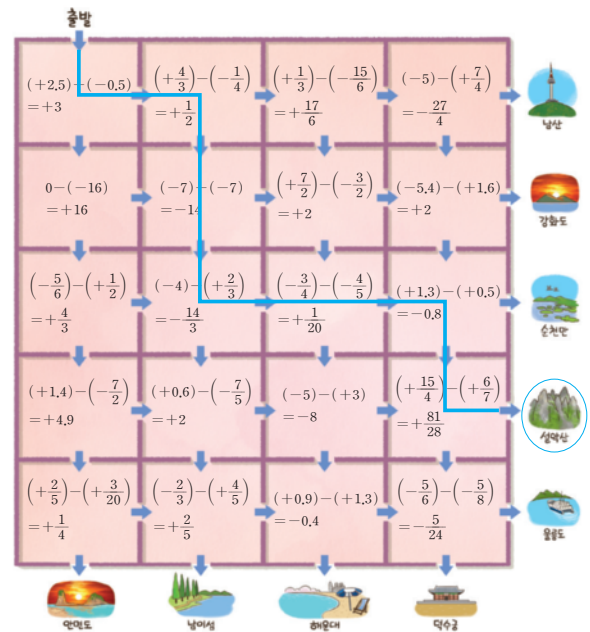
$$6 \quad +5, +\frac{38}{7}$$

$$3 \quad -\frac{7}{4}, -\frac{7}{6}$$

$$5 \quad -8.5, -9.8$$

$$7 \quad -4.5, -11.8$$

1



STEP 1

13 정수의 덧셈과 뺄셈의 혼합 계산 p. 108 ~ p. 109

1 -5, 0	2 0
3 -2	4 +8
5 -10	6 +7
7 +7	8 -6
9 0, -4	10 +21
11 -7	12 -7
13 +1	14 +4
15 +10	16 -8
17 -16	18 +14
19 +2	20 -14

$$2 \quad (-9) - (-6) + (+3) = (-9) + (+6) + (+3) \\ = (-9) + \{(+6) + (+3)\} \\ = (-9) + (+9) \\ = 0$$

$$3 \quad (-5) - (-4) + (-1) = (-5) + (+4) + (-1) \\ = \{(-5) + (-1)\} + (+4) \\ = (-6) + (+4) \\ = -2$$

$$\begin{aligned} 4 \quad (+6) + (-1) - (-3) &= (+6) + (-1) + (+3) \\ &= \{(+6) + (+3)\} + (-1) \\ &= (+9) + (-1) \\ &= +8 \end{aligned}$$

$$\begin{aligned} 5 \quad (-8) - (-3) - (+5) &= (-8) + (+3) + (-5) \\ &= \{(-8) + (-5)\} + (+3) \\ &= (-13) + (+3) \\ &= -10 \end{aligned}$$

$$\begin{aligned} 6 \quad (-6) - (-8) - (-5) &= (-6) + (+8) + (+5) \\ &= (-6) + \{(+8) + (+5)\} \\ &= (-6) + (+13) \\ &= +7 \end{aligned}$$

$$\begin{aligned} 7 \quad (+8) - (-7) - (+2) + (-6) \\ &= (+8) + (+7) + (-2) + (-6) \\ &= \{(+8) + (+7)\} + \{(-2) + (-6)\} \\ &= (+15) + (-8) = +7 \end{aligned}$$

$$\begin{aligned} 8 \quad (-1) + (-10) - (+4) - (-9) \\ &= (-1) + (-10) + (-4) + (+9) \\ &= \{(-1) + (-10) + (-4)\} + (+9) \\ &= (-15) + (+9) = -6 \end{aligned}$$

$$\begin{aligned} 10 \quad (+8) - (-21) - (+8) &= (+8) + (+21) + (-8) \\ &= \{(+8) + (-8)\} + (+21) \\ &= 0 + (+21) \\ &= +21 \end{aligned}$$

$$\begin{aligned} 11 \quad (-4) - (+9) - (-6) &= (-4) + (-9) + (+6) \\ &= \{(-4) + (-9)\} + (+6) \\ &= (-13) + (+6) \\ &= -7 \end{aligned}$$

$$\begin{aligned} 12 \quad (-2) - (-5) - (+10) &= (-2) + (+5) + (-10) \\ &= \{(-2) + (-10)\} + (+5) \\ &= (-12) + (+5) \\ &= -7 \end{aligned}$$

$$\begin{aligned} 13 \quad (-2) - (-5) + (+1) + (-3) \\ &= (-2) + (+5) + (+1) + (-3) \\ &= \{(-2) + (-3)\} + \{(+5) + (+1)\} \\ &= (-5) + (+6) = +1 \end{aligned}$$

$$\begin{aligned} 14 \quad (+8) + (-6) - (-7) - (+5) \\ &= (+8) + (-6) + (+7) + (-5) \\ &= \{(+8) + (+7)\} + \{(-6) + (-5)\} \\ &= (+15) + (-11) = +4 \end{aligned}$$

$$\begin{aligned} 15 \quad (+5) - (-8) - (+7) - (-4) \\ &= (+5) + (+8) + (-7) + (+4) \\ &= \{(+5) + (+8) + (+4)\} + (-7) \\ &= (+17) + (-7) = +10 \end{aligned}$$

$$\begin{aligned} 16 \quad (-3) - (+4) - (-5) + (-6) \\ &= (-3) + (-4) + (+5) + (-6) \\ &= \{(-3) + (-4) + (-6)\} + (+5) \\ &= (-13) + (+5) = -8 \end{aligned}$$

$$\begin{aligned} 17 \quad (-2) + (-13) - (-9) - (+10) \\ &= (-2) + (-13) + (+9) + (-10) \\ &= \{(-2) + (-13) + (-10)\} + (+9) \\ &= (-25) + (+9) = -16 \end{aligned}$$

$$\begin{aligned} 18 \quad (+18) - (-14) + (+5) - (+23) \\ &= (+18) + (+14) + (+5) + (-23) \\ &= \{(+18) + (+14) + (+5)\} + (-23) \\ &= (+37) + (-23) = +14 \end{aligned}$$

$$\begin{aligned} 19 \quad (+17) - (+4) + (-15) - (-4) \\ &= (+17) + (-4) + (-15) + (+4) \\ &= \{(+17) + (-15)\} + \{(-4) + (+4)\} \\ &= (+2) + 0 = +2 \end{aligned}$$

$$\begin{aligned} 20 \quad (-6) + (-4) - (+10) - (-6) \\ &= (-6) + (-4) + (-10) + (+6) \\ &= \{(-6) + (+6)\} + \{(-4) + (-10)\} \\ &= 0 + (-14) = -14 \end{aligned}$$

14 유리수의 덧셈과 뺄셈의 혼합 계산 p. 110 ~ p. 111

1 -5,9, -1,1	2 -2.6
3 -2,1	4 -3,5
5 $+\frac{1}{2}$	6 $-\frac{1}{3}$
7 -3	8 $-\frac{9}{7}$
9 $-\frac{25}{14}, -\frac{10}{7}$	10 $+\frac{13}{30}$
11 0	12 0
13 0	14 0
15 $-\frac{1}{6}$	16 $-\frac{1}{4}$
17 $-\frac{11}{4}$	18 $+\frac{1}{4}$

$$\begin{aligned}
2 \quad & (-0.4) - (-1.5) + (-3.7) \\
& = (-0.4) + (+1.5) + (-3.7) \\
& = \{(-0.4) + (-3.7)\} + (+1.5) \\
& = (-4.1) + (+1.5) = -2.6
\end{aligned}$$

$$\begin{aligned}
3 \quad & (-0.8) + (+3.2) - (+4.5) \\
& = (-0.8) + (+3.2) + (-4.5) \\
& = \{(-0.8) + (-4.5)\} + (+3.2) \\
& = (-5.3) + (+3.2) = -2.1
\end{aligned}$$

$$\begin{aligned}
4 \quad & (+3.5) + (-1.3) - (+5.7) \\
& = (+3.5) + (-1.3) + (-5.7) \\
& = (+3.5) + \{(-1.3) + (-5.7)\} \\
& = (+3.5) + (-7) = -3.5
\end{aligned}$$

$$\begin{aligned}
5 \quad & \left(-\frac{2}{5}\right) + \left(-\frac{1}{2}\right) - \left(-\frac{7}{5}\right) \\
& = \left(-\frac{2}{5}\right) + \left(-\frac{1}{2}\right) + \left(+\frac{7}{5}\right) \\
& = \left\{\left(-\frac{2}{5}\right) + \left(+\frac{7}{5}\right)\right\} + \left(-\frac{1}{2}\right) \\
& = (+1) + \left(-\frac{1}{2}\right) = +\frac{1}{2}
\end{aligned}$$

$$\begin{aligned}
6 \quad & \left(+\frac{2}{3}\right) - \left(+\frac{3}{4}\right) + \left(-\frac{1}{4}\right) \\
& = \left(+\frac{2}{3}\right) + \left(-\frac{3}{4}\right) + \left(-\frac{1}{4}\right) \\
& = \left(+\frac{2}{3}\right) + \left\{\left(-\frac{3}{4}\right) + \left(-\frac{1}{4}\right)\right\} \\
& = \left(+\frac{2}{3}\right) + (-1) = -\frac{1}{3}
\end{aligned}$$

$$\begin{aligned}
7 \quad & \left(+\frac{1}{3}\right) + \left(-\frac{4}{3}\right) - (+2) \\
& = \left(+\frac{1}{3}\right) + \left(-\frac{4}{3}\right) + (-2) \\
& = \left\{\left(+\frac{1}{3}\right) + \left(-\frac{4}{3}\right)\right\} + (-2) \\
& = (-1) + (-2) = -3
\end{aligned}$$

$$\begin{aligned}
8 \quad & (+6) - \left(-\frac{12}{7}\right) + (-9) \\
& = (+6) + \left(+\frac{12}{7}\right) + (-9) \\
& = \{(+6) + (-9)\} + \left(+\frac{12}{7}\right) \\
& = (-3) + \left(+\frac{12}{7}\right) = -\frac{9}{7}
\end{aligned}$$

$$\begin{aligned}
10 \quad & \left(-\frac{2}{5}\right) + \left(+\frac{2}{3}\right) - \left(-\frac{1}{6}\right) \\
& = \left(-\frac{2}{5}\right) + \left(+\frac{2}{3}\right) + \left(+\frac{1}{6}\right) \\
& = \left(-\frac{2}{5}\right) + \left\{\left(+\frac{2}{3}\right) + \left(+\frac{1}{6}\right)\right\} \\
& = \left(-\frac{2}{5}\right) + \left\{\left(+\frac{4}{6}\right) + \left(+\frac{1}{6}\right)\right\} \\
& = \left(-\frac{2}{5}\right) + \left(+\frac{5}{6}\right) \\
& = \left(-\frac{12}{30}\right) + \left(+\frac{25}{30}\right) = +\frac{13}{30}
\end{aligned}$$

$$\begin{aligned}
11 \quad & \left(-\frac{5}{6}\right) + \left(-\frac{1}{2}\right) - \left(-\frac{4}{3}\right) \\
& = \left(-\frac{5}{6}\right) + \left(-\frac{1}{2}\right) + \left(+\frac{4}{3}\right) \\
& = \left\{\left(-\frac{5}{6}\right) + \left(-\frac{1}{2}\right)\right\} + \left(+\frac{4}{3}\right) \\
& = \left\{\left(-\frac{5}{6}\right) + \left(-\frac{3}{6}\right)\right\} + \left(+\frac{4}{3}\right) \\
& = \left(-\frac{4}{3}\right) + \left(+\frac{4}{3}\right) = 0
\end{aligned}$$

$$\begin{aligned}
12 \quad & \left(+\frac{3}{4}\right) + \left(-\frac{1}{6}\right) - \left(+\frac{7}{12}\right) \\
& = \left(+\frac{3}{4}\right) + \left(-\frac{1}{6}\right) + \left(-\frac{7}{12}\right) \\
& = \left(+\frac{3}{4}\right) + \left\{\left(-\frac{1}{6}\right) + \left(-\frac{7}{12}\right)\right\} \\
& = \left(+\frac{3}{4}\right) + \left\{\left(-\frac{2}{12}\right) + \left(-\frac{7}{12}\right)\right\} \\
& = \left(+\frac{3}{4}\right) + \left(-\frac{3}{4}\right) = 0
\end{aligned}$$

$$\begin{aligned}
13 \quad & \left(+\frac{6}{5}\right) - \left(-\frac{1}{3}\right) + \left(-\frac{1}{5}\right) - \left(+\frac{4}{3}\right) \\
& = \left(+\frac{6}{5}\right) + \left(+\frac{1}{3}\right) + \left(-\frac{1}{5}\right) + \left(-\frac{4}{3}\right) \\
& = \left\{\left(+\frac{6}{5}\right) + \left(-\frac{1}{5}\right)\right\} + \left\{\left(+\frac{1}{3}\right) + \left(-\frac{4}{3}\right)\right\} \\
& = (+1) + (-1) = 0
\end{aligned}$$

$$\begin{aligned}
14 \quad & \left(-\frac{1}{2}\right) + (-1) + \left(-\frac{3}{2}\right) - (-3) \\
& = \left(-\frac{1}{2}\right) + (-1) + \left(-\frac{3}{2}\right) + (+3) \\
& = \left\{\left(-\frac{1}{2}\right) + \left(-\frac{3}{2}\right)\right\} + \{(-1) + (+3)\} \\
& = (-2) + (+2) = 0
\end{aligned}$$

$$\begin{aligned}
 15 \quad & \left(-\frac{1}{2}\right) + \left(+\frac{1}{6}\right) - \left(+\frac{2}{3}\right) - \left(-\frac{5}{6}\right) \\
 &= \left(-\frac{1}{2}\right) + \left(+\frac{1}{6}\right) + \left(-\frac{2}{3}\right) + \left(+\frac{5}{6}\right) \\
 &= \left\{\left(-\frac{1}{2}\right) + \left(-\frac{2}{3}\right)\right\} + \left\{\left(+\frac{1}{6}\right) + \left(+\frac{5}{6}\right)\right\} \\
 &= \left(-\frac{7}{6}\right) + (+1) = -\frac{1}{6}
 \end{aligned}$$

$$\begin{aligned}
 16 \quad & \left(+\frac{1}{4}\right) + \left(-\frac{2}{3}\right) - \left(-\frac{1}{2}\right) + \left(-\frac{1}{3}\right) \\
 &= \left(+\frac{1}{4}\right) + \left(-\frac{2}{3}\right) + \left(+\frac{1}{2}\right) + \left(-\frac{1}{3}\right) \\
 &= \left\{\left(+\frac{1}{4}\right) + \left(+\frac{1}{2}\right)\right\} + \left\{\left(-\frac{2}{3}\right) + \left(-\frac{1}{3}\right)\right\} \\
 &= \left(+\frac{3}{4}\right) + (-1) = -\frac{1}{4}
 \end{aligned}$$

$$\begin{aligned}
 17 \quad & \left(-\frac{4}{5}\right) + \left(-\frac{9}{4}\right) - \left(+\frac{6}{5}\right) - \left(-\frac{3}{2}\right) \\
 &= \left(-\frac{4}{5}\right) + \left(-\frac{9}{4}\right) + \left(-\frac{6}{5}\right) + \left(+\frac{3}{2}\right) \\
 &= \left\{\left(-\frac{4}{5}\right) + \left(-\frac{6}{5}\right)\right\} + \left\{\left(-\frac{9}{4}\right) + \left(+\frac{3}{2}\right)\right\} \\
 &= (-2) + \left(-\frac{3}{4}\right) = -\frac{11}{4}
 \end{aligned}$$

$$\begin{aligned}
 18 \quad & \left(-\frac{7}{3}\right) - \left(-\frac{3}{4}\right) - \left(+\frac{2}{3}\right) - \left(-\frac{5}{2}\right) \\
 &= \left(-\frac{7}{3}\right) + \left(+\frac{3}{4}\right) + \left(-\frac{2}{3}\right) + \left(+\frac{5}{2}\right) \\
 &= \left\{\left(-\frac{7}{3}\right) + \left(-\frac{2}{3}\right)\right\} + \left\{\left(+\frac{3}{4}\right) + \left(+\frac{5}{2}\right)\right\} \\
 &= (-3) + \left(+\frac{13}{4}\right) = +\frac{1}{4}
 \end{aligned}$$

STEP 2

기본연산 집중연습 | 13~14

p. 112

1 +12	2 -0.6
3 +3	4 +1
5 0	6 $-\frac{7}{6}$
7 $-\frac{19}{8}$	8 -2
9 $-\frac{1}{2}$	10 $-\frac{3}{4}$

세상에서 가장 예쁜 소는? 미소

STEP 1

15 부호가 생략된 수의 계산(1)

p. 113 ~ p. 114

1 12, -12, -5	2 -9	3 -18
4 -23	5 -17	6 -23
7 +5	8 -2	9 +4
10 0	11 -9	12 -17
13 -8, -13	14 -13	15 -20
16 -10	17 -13	18 -23
19 -2.6	20 -9	21 -4.8
22 0	23 $+\frac{3}{4}$	24 $-\frac{1}{5}$
25 $+\frac{1}{5}$	26 $-\frac{17}{14}$	27 $+\frac{4}{45}$
28 $-\frac{37}{6}$	29 $-\frac{13}{24}$	30 $-\frac{13}{10}$

$$\begin{aligned}
 20 \quad & -6.4 - 2.6 = (-6.4) - (+2.6) \\
 &= (-6.4) + (-2.6) = -9
 \end{aligned}$$

$$\begin{aligned}
 21 \quad & 2.5 - 7.3 = (+2.5) - (+7.3) \\
 &= (+2.5) + (-7.3) = -4.8
 \end{aligned}$$

$$22 \quad \frac{3}{4} - \frac{3}{4} = \left(+\frac{3}{4}\right) - \left(+\frac{3}{4}\right) = \left(+\frac{3}{4}\right) + \left(-\frac{3}{4}\right) = 0$$

$$\begin{aligned}
 23 \quad & \frac{5}{6} - \frac{1}{12} = \left(+\frac{5}{6}\right) - \left(+\frac{1}{12}\right) \\
 &= \left(+\frac{5}{6}\right) + \left(-\frac{1}{12}\right) \\
 &= \left(+\frac{10}{12}\right) + \left(-\frac{1}{12}\right) = +\frac{9}{12} = +\frac{3}{4}
 \end{aligned}$$

$$\begin{aligned}
 24 \quad & \frac{1}{2} - \frac{7}{10} = \left(+\frac{1}{2}\right) - \left(+\frac{7}{10}\right) \\
 &= \left(+\frac{1}{2}\right) + \left(-\frac{7}{10}\right) \\
 &= \left(+\frac{5}{10}\right) + \left(-\frac{7}{10}\right) = -\frac{2}{10} = -\frac{1}{5}
 \end{aligned}$$

$$25 \quad -\frac{3}{5} + \frac{4}{5} = \left(-\frac{3}{5}\right) + \left(+\frac{4}{5}\right) = +\frac{1}{5}$$

$$\begin{aligned}
 26 \quad & -\frac{3}{2} + \frac{2}{7} = \left(-\frac{3}{2}\right) + \left(+\frac{2}{7}\right) \\
 &= \left(-\frac{21}{14}\right) + \left(+\frac{4}{14}\right) = -\frac{17}{14}
 \end{aligned}$$

$$\begin{aligned}
 27 \quad & -\frac{1}{9} + \frac{1}{5} = \left(-\frac{1}{9}\right) + \left(+\frac{1}{5}\right) \\
 &= \left(-\frac{5}{45}\right) + \left(+\frac{9}{45}\right) = +\frac{4}{45}
 \end{aligned}$$

$$\begin{aligned} 28 \quad -\frac{9}{2} - \frac{5}{3} &= \left(-\frac{9}{2}\right) - \left(+\frac{5}{3}\right) \\ &= \left(-\frac{9}{2}\right) + \left(-\frac{5}{3}\right) \\ &= \left(-\frac{27}{6}\right) + \left(-\frac{10}{6}\right) = -\frac{37}{6} \end{aligned}$$

$$\begin{aligned} 29 \quad -\frac{1}{6} - \frac{3}{8} &= \left(-\frac{1}{6}\right) - \left(+\frac{3}{8}\right) \\ &= \left(-\frac{1}{6}\right) + \left(-\frac{3}{8}\right) \\ &= \left(-\frac{4}{24}\right) + \left(-\frac{9}{24}\right) = -\frac{13}{24} \end{aligned}$$

$$\begin{aligned} 30 \quad -\frac{1}{2} - \frac{4}{5} &= \left(-\frac{1}{2}\right) - \left(+\frac{4}{5}\right) \\ &= \left(-\frac{1}{2}\right) + \left(-\frac{4}{5}\right) \\ &= \left(-\frac{5}{10}\right) + \left(-\frac{8}{10}\right) = -\frac{13}{10} \end{aligned}$$

16 부호가 생략된 수의 계산 (2) p. 115 ~ p. 116

1 **방법 1** $-1, -1, -9, 0$

방법 2 —9, 0

$$\begin{array}{cc} 2 & 1 \\ 3 & -6 \end{array}$$

4 27 5 -19

$$\begin{array}{cc} 6 & 0 \\ 7 & -10 \end{array}$$

$$8 \quad -6 \qquad 9 \quad -4$$

10 -3.2 11 6

12 4.5 13 $-\frac{10}{3}$

$$14 \frac{5}{2} \qquad 15 - \frac{19}{6}$$

$$16 - \frac{11}{12} \qquad 17 - \frac{17}{12}$$

18 -3 19 11

$$20 \quad -\frac{1}{12}$$

22 $-\frac{3}{10}$ 23 5

2 $6-9+4=6+4-9=10-9=1$

3 $-8-5+7=-13+7=-6$

4 $4-12+35=4+35-12=39-12=27$

5 $10 - 13 - 16 = 10 - 29 = -19$

6 $8-3-6+1=8+1-3-6=9-9=0$

7 $-7+5-3-5=-7-3-5+5=-15+5=-10$

8 $5-7-11+7=5+7-7-11=12-18=-6$

9 $4 - 6 + 7 - 9 = 4 + 7 - 6 - 9 = 11 - 15 = -4$

10 $2.6 - 7.2 + 1.4 = 2.6 + 1.4 - 7.2 = 4 - 7.2 = -3.2$

11 $3.2 - 4 + 6.8 = 3.2 + 6.8 - 4 = 10 - 4 = 6$

$$\begin{aligned} 12 \quad 0,5 - \frac{9}{2} + 8,5 &= 0,5 - 4,5 + 8,5 \\ &= 0,5 + 8,5 - 4,5 \\ &= 9 - 4,5 \\ &= 4,5 \end{aligned}$$

$$\begin{aligned} 13 \quad -\frac{2}{3}-5+\frac{7}{3} &= -\frac{2}{3}+\frac{7}{3}-5 = \frac{5}{3}-5 \\ &= \frac{5}{3}-\frac{15}{3} = -\frac{10}{3} \end{aligned}$$

14 $2 - \frac{1}{3} + \frac{5}{6} = 2 - \frac{2}{6} + \frac{5}{6} = 2 + \frac{1}{2} = \frac{5}{2}$

$$15 \quad \frac{1}{3} - \frac{5}{6} - \frac{8}{3} = \frac{1}{3} - \frac{8}{3} - \frac{5}{6} = -\frac{7}{3} - \frac{5}{6} \\ = -\frac{14}{6} - \frac{5}{6} = -\frac{19}{6}$$

$$\begin{aligned} 16 \quad -\frac{1}{2} - \frac{2}{3} + \frac{1}{4} &= -\frac{6}{12} - \frac{8}{12} + \frac{3}{12} \\ &= -\frac{14}{12} + \frac{3}{12} = -\frac{11}{12} \end{aligned}$$

$$\begin{aligned} 17 \quad -\frac{5}{2} + \frac{7}{4} - \frac{2}{3} &= -\frac{5}{2} - \frac{2}{3} + \frac{7}{4} \\ &= -\frac{30}{12} - \frac{8}{12} + \frac{21}{12} \\ &= -\frac{38}{12} + \frac{21}{12} = -\frac{17}{12} \end{aligned}$$

18 $-5 + 7.4 - 1.2 - 4.2 = -5 + 2 = -3$

$$\begin{aligned} 19 \quad -1,7+10,5-6,3+8,5 &= -1,7-6,3+10,5+8,5 \\ &= -8+19 \\ &= 11 \end{aligned}$$

$$\begin{aligned} 20 \quad 1 - \frac{1}{2} - \frac{1}{3} - \frac{1}{4} &= 1 - \frac{6}{12} - \frac{4}{12} - \frac{3}{12} \\ &= 1 - \frac{13}{12} = -\frac{1}{12} \end{aligned}$$

$$\begin{aligned} 21 \quad 2 - \frac{1}{3} - \frac{7}{4} + \frac{1}{6} &= 2 - \frac{4}{12} - \frac{21}{12} + \frac{2}{12} \\ &= 2 - \frac{23}{12} = \frac{1}{12} \end{aligned}$$

$$\begin{aligned}
 22 \quad -\frac{5}{2} + 2.5 + \frac{1}{5} - \frac{1}{2} &= -\frac{5}{2} + \frac{5}{2} + \frac{1}{5} - \frac{1}{2} \\
 &= \frac{1}{5} - \frac{1}{2} = \frac{2}{10} - \frac{5}{10} \\
 &= -\frac{3}{10}
 \end{aligned}$$

$$\begin{aligned}
 23 \quad 3.7 - \frac{1}{3} + 2.3 - \frac{2}{3} &= 3.7 + 2.3 - \frac{1}{3} - \frac{2}{3} \\
 &= 6 - 1 \\
 &= 5
 \end{aligned}$$

17 어떤 수보다 ~만큼 큰 수, 작은 수 구하기 p. 117

1 +, 2	2 -9, 7
3 4	4 9
5 4	6 -3
7 -1	8 -8
9 $-\frac{17}{10}$	10 $\frac{63}{40}$

3 -1보다 5만큼 큰 수는 $-1+5=4$

4 2보다 -7만큼 작은 수는
 $2-(-7)=2+(+7)=9$

5 7보다 -3만큼 큰 수는 $7+(-3)=4$

6 -6보다 -3만큼 작은 수는
 $-6-(-3)=-6+(+3)=-3$

7 -9보다 8만큼 큰 수는 $-9+8=-1$

8 -2보다 6만큼 작은 수는 $-2-6=-8$

9 $-\frac{6}{5}$ 보다 $-\frac{1}{2}$ 만큼 큰 수는
 $-\frac{6}{5} + \left(-\frac{1}{2}\right) = -\frac{12}{10} + \left(-\frac{5}{10}\right) = -\frac{17}{10}$

10 $\frac{3}{8}$ 보다 $-\frac{6}{5}$ 만큼 작은 수는
 $\frac{3}{8} - \left(-\frac{6}{5}\right) = \frac{3}{8} + \left(+\frac{6}{5}\right)$
 $= \frac{15}{40} + \left(+\frac{48}{40}\right) = \frac{63}{40}$

STEP 2

기본연산 집중연습 | 15~17

p. 118 ~ p. 119

1 >	2 =
3 >	4 >

5 >	6 <
7 >	8 >
9 >	

10 $-\frac{17}{6}, -\frac{22}{45}$	11 $-\frac{11}{6}, \frac{2}{3}$
------------------------------------	---------------------------------

12 $\frac{7}{15}, \frac{1}{28}$	13 $-\frac{7}{12}, -\frac{43}{30}$
---------------------------------	------------------------------------

14 B, A	15 C, A, B
---------	------------

16 C, B, A	17 A, B, C
------------	------------

18 A, C, B	19 A, C, B
------------	------------

1 $-4+9=5, 2-6=-4$ 이므로
 $-4+9>2-6$

2 $-8+5=-3, -2-1=-3$ 이므로
 $-8+5=-2-1$

3 $-30+30=0, -3-2=-5$ 이므로
 $-30+30>-3-2$

4 $3-7=-4, -14-6=-20$ 이므로
 $3-7>-14-6$

5 $-1+15=14, 14-1=13$ 이므로
 $-1+15>14-1$

6 $2-7=-5, -5+8=3$ 이므로
 $2-7<-5+8$

7 $-8+5.1=-2.9, -3.4-1.7=-5.1$ 이므로
 $-8+5.1>-3.4-1.7$

8 $-\frac{3}{4}-\frac{1}{2}=-\frac{5}{4}, \frac{7}{8}-\frac{5}{2}=-\frac{13}{8}$ 이고
 $-\frac{5}{4}=-\frac{10}{8}$ 이므로 $-\frac{3}{4}-\frac{1}{2}>\frac{7}{8}-\frac{5}{2}$

9 $-7.8+4.8=-3, -6.3+1.8=-4.5$ 이므로
 $-7.8+4.8>-6.3+1.8$

14 $A=-3-9+5=-12+5=-7$
 $B=-3-3=-6$
 $C=1+2-7=3-7=-4$
 따라서 계산 결과가 큰 것부터 차례로 나열하면 C, B, A 이다.

15 $A=-17+12=-5$
 $B=-3-7+4=-10+4=-6$
 $C=-5-2+3+6=-7+9=2$
 따라서 계산 결과가 큰 것부터 차례로 나열하면 C, A, B 이다.

16 $A=1.3-2.9=-1.6$
 $B=5.3+3.4-6.1=8.7-6.1=2.6$
 $C=0.5-5.5+8.5=0.5+8.5-5.5=9-5.5=3.5$
 따라서 계산 결과가 큰 것부터 차례로 나열하면 C, B, A 이다.

17 $A=1-2-\frac{4}{3}=-1-\frac{4}{3}=-\frac{7}{3}$
 $B=-\frac{12}{4}=-3$
 $C=-7-9+2+8=-16+10=-6$
 따라서 계산 결과가 큰 것부터 차례로 나열하면 A, B, C 이다.

18 $A=-\frac{5}{7}+\frac{12}{7}+3=1+3=4$
 $B=-\frac{5}{6}-\frac{2}{3}+\frac{1}{2}=-\frac{5}{6}-\frac{4}{6}+\frac{1}{2}=-\frac{3}{2}+\frac{1}{2}=-1$
 $C=\frac{5}{3}+\frac{5}{6}-\frac{7}{4}=\frac{20}{12}+\frac{10}{12}-\frac{21}{12}$
 $=\frac{30}{12}-\frac{21}{12}=\frac{9}{12}=\frac{3}{4}$
 따라서 계산 결과가 큰 것부터 차례로 나열하면 A, C, B 이다.

19 $A=1-\frac{6}{12}+\frac{3}{12}-\frac{4}{12}=1-\frac{7}{12}=\frac{5}{12}$
 $B=-\frac{10}{12}-\frac{9}{12}+\frac{6}{12}=-\frac{19}{12}+\frac{6}{12}=-\frac{13}{12}$
 $C=3+4-8=7-8=-1$
 따라서 계산 결과가 큰 것부터 차례로 나열하면 A, C, B 이다.

STEP 1

18 유리수의 곱셈(1): 부호가 같은 두 수 p. 120 ~ p. 121

- | | |
|--------------------|--------------------|
| 1 $+, +12$ | 2 $+27$ |
| 3 $+24$ | 4 $+25$ |
| 5 $+21$ | 6 $+12$ |
| 7 $+7$ | 8 $+32$ |
| 9 $+1$ | 10 $+0.93$ |
| 11 $+\frac{5}{2}$ | 12 $+6$ |
| 13 $+\frac{3}{4}$ | 14 $+\frac{4}{5}$ |
| 15 $+7.5$ | 16 $+0.65$ |
| 17 $+6$ | 18 $+6$ |
| 19 $+\frac{3}{10}$ | 20 $+\frac{10}{3}$ |

19 유리수의 곱셈(2): 부호가 다른 두 수 p. 122 ~ p. 123

- | | |
|-------------------|-----------|
| 1 $-, -27$ | 2 -42 |
| 3 -30 | 4 -64 |
| 5 -24 | 6 -54 |
| 7 -44 | 8 -49 |
| 9 -6 | 10 -21 |
| 11 -16.8 | 12 -9.6 |
| 13 -4 | 14 -10 |
| 15 $-\frac{1}{3}$ | 16 -12 |
| 17 $-\frac{1}{9}$ | 18 -8 |
| 19 $-\frac{3}{4}$ | 20 -6 |
| 21 0 | 22 0 |

20 곱셈의 계산 법칙 p. 124

- 1 $-2, -2, +10, +140$
 (가) 곱셈의 교환법칙 (나) 곱셈의 결합법칙
- 2 $-2, -2, +2, -2, -4$
 (가) 곱셈의 교환법칙 (나) 곱셈의 결합법칙
- 3 $-5, -5, +20, +220$, 교환, 결합
- 4 $-\frac{5}{2}, -\frac{5}{2}, +1, -\frac{4}{7}$, 교환, 결합

21 셋 이상의 유리수의 곱셈 p. 125 ~ p. 126

- | | |
|--------------------|--------------------|
| 1 $+, +60$ | 2 -36 |
| 3 -80 | 4 $+700$ |
| 5 $+110$ | 6 -540 |
| 7 $+96$ | 8 -84 |
| 9 -48 | 10 $+112$ |
| 11 -540 | 12 0 |
| 13 $+39$ | 14 -15 |
| 15 $+\frac{9}{7}$ | 16 -8 |
| 17 $-\frac{1}{4}$ | 18 $+\frac{27}{2}$ |
| 19 -12 | 20 $+5$ |
| 21 $-\frac{1}{16}$ | 22 0 |

2 $(-6) \times (-3) \times (-2) = -(6 \times 3 \times 2) = -36$

3 $(+2) \times (-8) \times (+5) = -(2 \times 8 \times 5) = -80$

4 $(-25) \times (+7) \times (-4) = +(25 \times 7 \times 4) = +700$

$$5 \quad (+5) \times (-11) \times (-2) = +(5 \times 11 \times 2) = +110$$

$$6 \quad (-9) \times (-4) \times (-15) = -(9 \times 4 \times 15) = -540$$

$$7 \quad (-3) \times (-8) \times (+4) = +(3 \times 8 \times 4) = +96$$

$$8 \quad (-6) \times (+7) \times (+2) = -(6 \times 7 \times 2) = -84$$

$$9 \quad (-2) \times (+6) \times (-1) \times (-4) = -(2 \times 6 \times 1 \times 4) \\ = -48$$

$$10 \quad (+7) \times (-8) \times (+2) \times (-1) = +(7 \times 8 \times 2 \times 1) \\ = +112$$

$$11 \quad (-5) \times (-9) \times (-3) \times (+4) = -(5 \times 9 \times 3 \times 4) \\ = -540$$

$$13 \quad (-15) \times (+13) \times \left(-\frac{1}{5}\right) = +\left(15 \times 13 \times \frac{1}{5}\right) = +39$$

$$14 \quad (-5) \times (-9) \times \left(-\frac{1}{3}\right) = -\left(5 \times 9 \times \frac{1}{3}\right) = -15$$

$$15 \quad (-2) \times \left(+\frac{1}{7}\right) \times \left(-\frac{9}{2}\right) = +\left(2 \times \frac{1}{7} \times \frac{9}{2}\right) = +\frac{9}{7}$$

$$16 \quad \left(-\frac{3}{5}\right) \times (-16) \times \left(-\frac{5}{6}\right) = -\left(\frac{3}{5} \times 16 \times \frac{5}{6}\right) = -8$$

$$17 \quad \left(-\frac{1}{6}\right) \times \left(-\frac{4}{3}\right) \times \left(-\frac{9}{8}\right) = -\left(\frac{1}{6} \times \frac{4}{3} \times \frac{9}{8}\right) = -\frac{1}{4}$$

$$18 \quad (-1.5) \times (-0.3) \times (+30) \\ = \left(-\frac{3}{2}\right) \times \left(-\frac{3}{10}\right) \times (+30) \\ = +\left(\frac{3}{2} \times \frac{3}{10} \times 30\right) = +\frac{27}{2}$$

$$19 \quad \left(+\frac{1}{4}\right) \times (+3) \times (-8) \times (+2) \\ = -\left(\frac{1}{4} \times 3 \times 8 \times 2\right) = -12$$

$$20 \quad \left(-\frac{1}{2}\right) \times (+3) \times \left(+\frac{5}{3}\right) \times (-2) \\ = +\left(\frac{1}{2} \times 3 \times \frac{5}{3} \times 2\right) = +5$$

$$21 \quad \left(-\frac{1}{3}\right) \times \left(+\frac{3}{4}\right) \times \left(-\frac{5}{4}\right) \times \left(-\frac{1}{5}\right) \\ = -\left(\frac{1}{3} \times \frac{3}{4} \times \frac{5}{4} \times \frac{1}{5}\right) = -\frac{1}{16}$$

STEP 2

기본연산 집중연습 | 18~21

p. 127 ~ p. 128

$$1 \quad -112$$

$$2 \quad -18$$

$$3 \quad -288$$

$$4 \quad +12$$

$$5 \quad +578$$

$$6 \quad +560$$

$$7 \quad -90$$

$$8 \quad +\frac{3}{5}$$

$$9 \quad +\frac{5}{4}$$

$$10 \quad +70$$

$$11 \quad -108$$

$$12 \quad -168$$

$$13 \quad -30$$

$$14 \quad +600$$

$$15 \quad +150$$

$$16 \quad -\frac{45}{4}$$

$$17 \quad +\frac{3}{2}$$

$$18 \quad -\frac{3}{14}$$

$$19 \quad +\frac{3}{32}$$

$$20 \quad +\frac{6}{5}$$

$$21 \quad +\frac{3}{32}$$

$$1 \quad \ominus = (+7) \times (+4) = +28$$

$$\oslash = (+4) \times (-1) = -4$$

$$\oplus = \ominus \times \oslash = (+28) \times (-4) = -112$$

$$2 \quad \ominus = (+6) \times (-1) = -6$$

$$\oslash = (-1) \times (-3) = +3$$

$$\oplus = \ominus \times \oslash = (-6) \times (+3) = -18$$

$$3 \quad \ominus = (+4) \times (-6) = -24$$

$$\oslash = (-6) \times (-2) = +12$$

$$\oplus = \ominus \times \oslash = (-24) \times (+12) = -288$$

$$4 \quad \ominus = (-1) \times (-2) = +2$$

$$\oslash = (-2) \times (-3) = +6$$

$$\oplus = \ominus \times \oslash = (+2) \times (+6) = +12$$

$$5 \quad \ominus = (-2) \times (+8.5) = -17$$

$$\oslash = (+8.5) \times (-4) = -34$$

$$\oplus = \ominus \times \oslash = (-17) \times (-34) = +578$$

$$6 \quad \ominus = (-3.2) \times (+5) = -16$$

$$\oslash = (+5) \times (-7) = -35$$

$$\oplus = \ominus \times \oslash = (-16) \times (-35) = +560$$

$$7 \quad \ominus = (-5) \times (-6) = +30$$

$$\oslash = (-6) \times \left(+\frac{1}{2}\right) = -3$$

$$\oplus = \ominus \times \oslash = (+30) \times (-3) = -90$$

$$8 \quad \textcircled{㉠} = \left(-\frac{3}{4}\right) \times \left(-\frac{2}{5}\right) = +\frac{3}{10}$$

$$\textcircled{㉡} = \left(-\frac{2}{5}\right) \times (-5) = +2$$

$$\textcircled{㉢} = \textcircled{㉠} \times \textcircled{㉡} = \left(+\frac{3}{10}\right) \times (+2) = +\frac{3}{5}$$

$$9 \quad \textcircled{㉠} = \left(-\frac{2}{9}\right) \times \left(+\frac{3}{4}\right) = -\frac{1}{6}$$

$$\textcircled{㉡} = \left(+\frac{3}{4}\right) \times (-10) = -\frac{15}{2}$$

$$\textcircled{㉢} = \textcircled{㉠} \times \textcircled{㉡} = \left(-\frac{1}{6}\right) \times \left(-\frac{15}{2}\right) = +\frac{5}{4}$$

$$10 \quad (-2) \times (-7) \times (+5) = +(2 \times 7 \times 5) = +70$$

$$11 \quad (-3) \times (-4) \times (-9) = -(3 \times 4 \times 9) = -108$$

$$12 \quad (+4) \times (-6) \times (+7) = -(4 \times 6 \times 7) = -168$$

$$13 \quad (-2) \times (+3) \times (-5) \times (-1) = -(2 \times 3 \times 5 \times 1) = -30$$

$$14 \quad (-8) \times (+3) \times (+5) \times (-5) = +(8 \times 3 \times 5 \times 5) = +600$$

$$15 \quad (-3) \times (-5) \times (-1) \times (-10) = +(3 \times 5 \times 1 \times 10) = +150$$

$$16 \quad (-9) \times (-10) \times \left(-\frac{1}{8}\right) = -\left(9 \times 10 \times \frac{1}{8}\right) = -\frac{45}{4}$$

$$17 \quad \left(-\frac{3}{5}\right) \times \left(+\frac{5}{6}\right) \times (-3) = +\left(\frac{3}{5} \times \frac{5}{6} \times 3\right) = +\frac{3}{2}$$

$$18 \quad \left(+\frac{1}{4}\right) \times \left(-\frac{3}{2}\right) \times \left(+\frac{4}{7}\right) = -\left(\frac{1}{4} \times \frac{3}{2} \times \frac{4}{7}\right) = -\frac{3}{14}$$

$$19 \quad \begin{aligned} &\left(-\frac{5}{6}\right) \times \left(-\frac{3}{8}\right) \times (+0.3) \\ &= \left(-\frac{5}{6}\right) \times \left(-\frac{3}{8}\right) \times \left(+\frac{3}{10}\right) \\ &= +\left(\frac{5}{6} \times \frac{3}{8} \times \frac{3}{10}\right) = +\frac{3}{32} \end{aligned}$$

$$20 \quad \begin{aligned} &(-3) \times \left(-\frac{1}{2}\right) \times (-4) \times \left(-\frac{1}{5}\right) \\ &= +\left(3 \times \frac{1}{2} \times 4 \times \frac{1}{5}\right) = +\frac{6}{5} \end{aligned}$$

$$21 \quad \begin{aligned} &\left(-\frac{3}{4}\right) \times (+0.1) \times (-2) \times \left(+\frac{5}{8}\right) \\ &= \left(-\frac{3}{4}\right) \times \left(+\frac{1}{10}\right) \times (-2) \times \left(+\frac{5}{8}\right) \\ &= +\left(\frac{3}{4} \times \frac{1}{10} \times 2 \times \frac{5}{8}\right) = +\frac{3}{32} \end{aligned}$$

STEP 1

22 거듭제곱의 계산

p. 129

1 9	2 9	3 -9
4 16	5 -16	6 -32
7 16	8 16	9 -16
10 -1	11 1	12 1
13 $\frac{1}{8}$	14 $-\frac{1}{8}$	15 $\frac{4}{25}$

$$10 \quad (-1)^3 = (-1) \times (-1) \times (-1) = -1$$

3개

$$11 \quad (-1)^4 = (-1) \times (-1) \times (-1) \times (-1) = 1$$

4개

$$12 \quad (-1)^{10} = (-1) \times (-1) \times \cdots \times (-1) = 1$$

10개

참고 $(-1)^{\text{짝수}} = 1, (-1)^{\text{홀수}} = -1$

23 거듭제곱을 포함한 곱셈

p. 130 ~ p. 131

1 4, -12	2 -16
3 -150	4 -32
5 64	6 36
7 -49	8 -1
9 -16	10 125
11 $-\frac{4}{9}$	12 $-\frac{1}{8}$
13 2	14 $\frac{4}{25}$
15 -32	16 -135
17 1	18 1
19 2	20 $-\frac{2}{3}$
21 $\frac{15}{8}$	22 18

$$2 \quad (-1) \times (-2)^4 = (-1) \times 16 = -16$$

$$3 \quad (-6) \times (-5)^2 = (-6) \times 25 = -150$$

$$4 \quad 4 \times (-2^3) = 4 \times (-8) = -32$$

$$5 \quad (-4)^2 \times 2^2 = 16 \times 4 = 64$$

$$6 \quad -3^2 \times (-2^2) = -9 \times (-4) = 36$$

$$7 \quad (-1)^5 \times (-7)^2 = (-1) \times 49 = -49$$

$$8 \quad (-1)^{20} \times (-1)^{19} = 1 \times (-1) = -1$$

$$9 \quad -1^5 \times (-4)^2 = -1 \times 16 = -16$$

$$10 \quad (-1)^9 \times (-5^3) = (-1) \times (-125) = 125$$

$$11 \quad (-1)^3 \times \left(-\frac{2}{3}\right)^2 = (-1) \times \frac{4}{9} = -\frac{4}{9}$$

$$12 \quad \left(-\frac{1}{2}\right)^3 \times (-1)^4 = \left(-\frac{1}{8}\right) \times 1 = -\frac{1}{8}$$

$$13 \quad \left(-\frac{1}{2}\right)^5 \times (-4)^3 = \left(-\frac{1}{32}\right) \times (-64) = 2$$

$$14 \quad \left(-\frac{2}{5}\right)^2 \times (-1)^6 = \frac{4}{25} \times 1 = \frac{4}{25}$$

$$15 \quad (-2) \times (-1)^2 \times 4^2 = (-2) \times 1 \times 16 = -32$$

$$16 \quad (-3)^3 \times (-1)^5 \times (-5) = (-27) \times (-1) \times (-5) \\ = -(27 \times 1 \times 5) \\ = -135$$

$$17 \quad (-1)^3 \times (-1)^4 \times (-1)^5 = (-1) \times 1 \times (-1) = 1$$

$$18 \quad -1^6 \times (-1)^7 \times (-1)^8 = -1 \times (-1) \times 1 = 1$$

$$19 \quad (-3)^2 \times \left(-\frac{2}{5}\right) \times \left(-\frac{5}{9}\right) = 9 \times \left(-\frac{2}{5}\right) \times \left(-\frac{5}{9}\right) \\ = +\left(9 \times \frac{2}{5} \times \frac{5}{9}\right) = 2$$

$$20 \quad \left(-\frac{3}{2}\right) \times (-1)^{10} \times \left(-\frac{2}{3}\right)^2 = \left(-\frac{3}{2}\right) \times 1 \times \frac{4}{9} = -\frac{2}{3}$$

$$21 \quad \left(-\frac{1}{4}\right)^2 \times (-5^2) \times \left(-\frac{6}{5}\right) = \frac{1}{16} \times (-25) \times \left(-\frac{6}{5}\right) \\ = +\left(\frac{1}{16} \times 25 \times \frac{6}{5}\right) = \frac{15}{8}$$

$$22 \quad \left(-\frac{1}{2}\right)^3 \times (-3^2) \times 2^4 = \left(-\frac{1}{8}\right) \times (-9) \times 16 \\ = +\left(\frac{1}{8} \times 9 \times 16\right) = 18$$

24 분배법칙

p. 132 ~ p. 133

$$1 \quad 100, 1, 1300, 13, 1313$$

$$2 \quad 17, 17, 1700, 34, 1666$$

$$3 \quad -2842$$

$$4 \quad 3395$$

$$5 \quad -28$$

$$6 \quad -7$$

$$7 \quad 1$$

$$8 \quad 1$$

$$9 \quad 28, 2800$$

$$10 \quad -430$$

$$11 \quad 45000$$

$$12 \quad -400$$

$$13 \quad -480$$

$$14 \quad -31$$

$$15 \quad -1$$

$$16 \quad 13$$

$$17 \quad 350$$

$$18 \quad -210$$

$$19 \quad -250$$

$$20 \quad -36$$

$$21 \quad -12$$

$$22 \quad 123$$

$$3 \quad 29 \times (-100 + 2) = 29 \times (-100) + 29 \times 2 \\ = -2900 + 58 = -2842$$

$$4 \quad (100 - 3) \times 35 = 100 \times 35 - 3 \times 35 \\ = 3500 - 105 = 3395$$

$$5 \quad (-12) \times \left(\frac{5}{6} + \frac{3}{2}\right) = (-12) \times \frac{5}{6} + (-12) \times \frac{3}{2} \\ = -10 + (-18) = -28$$

$$6 \quad \left(-\frac{3}{5} + \frac{1}{4}\right) \times 20 = -\frac{3}{5} \times 20 + \frac{1}{4} \times 20 \\ = -12 + 5 = -7$$

$$7 \quad 15 \times \left\{\frac{2}{5} + \left(-\frac{1}{3}\right)\right\} = 15 \times \frac{2}{5} + 15 \times \left(-\frac{1}{3}\right) \\ = 6 + (-5) = 1$$

$$8 \quad \left(\frac{7}{9} - \frac{5}{6}\right) \times (-18) = \frac{7}{9} \times (-18) - \frac{5}{6} \times (-18) \\ = -14 + 15 = 1$$

$$10 \quad -95 \times 43 + 85 \times 43 = (-95 + 85) \times 43 \\ = (-10) \times 43 = -430$$

$$11 \quad 45 \times 999 + 45 \times 1 = 45 \times (999 + 1) \\ = 45 \times 1000 = 45000$$

$$12 \quad 91 \times (-4) + 9 \times (-4) = (91 + 9) \times (-4) \\ = 100 \times (-4) = -400$$

$$13 \quad 24 \times (-7) + 24 \times (-13) = 24 \times \{(-7) + (-13)\} \\ = 24 \times (-20) = -480$$

$$14 \quad (-4) \times 3.1 + (-6) \times 3.1 = \{(-4) + (-6)\} \times 3.1 \\ = (-10) \times 3.1 = -31$$

$$15 \quad \left(-\frac{1}{6}\right) \times 2 + \left(-\frac{1}{6}\right) \times 4 = \left(-\frac{1}{6}\right) \times (2+4) \\ = \left(-\frac{1}{6}\right) \times 6 = -1$$

$$16 \quad \left(-\frac{3}{7}\right) \times (-13) + \left(-\frac{4}{7}\right) \times (-13) \\ = \left\{\left(-\frac{3}{7}\right) + \left(-\frac{4}{7}\right)\right\} \times (-13) \\ = (-1) \times (-13) = 13$$

$$17 \quad 3.5 \times (-14) + 3.5 \times 114 = 3.5 \times (-14 + 114) \\ = 3.5 \times 100 = 350$$

$$18 \quad 27 \times (-2.1) + 73 \times (-2.1) = (27 + 73) \times (-2.1) \\ = 100 \times (-2.1) = -210$$

$$19 \quad 5 \times 12 - 5 \times 62 = 5 \times (12 - 62) \\ = 5 \times (-50) = -250$$

$$20 \quad 6 \times (-18) - 4 \times (-18) = (6 - 4) \times (-18) \\ = 2 \times (-18) = -36$$

$$21 \quad \frac{2}{5} \times 36 - \frac{2}{5} \times 66 = \frac{2}{5} \times (36 - 66) \\ = \frac{2}{5} \times (-30) = -12$$

$$22 \quad 13.2 \times 12.3 - 3.2 \times 12.3 \\ = (13.2 - 3.2) \times 12.3 \\ = 10 \times 12.3 = 123$$

STEP 2

기본연산 집중연습 | 22~24

p. 134 ~ p. 135

1 2번 열쇠

2 1

4 $-\frac{1}{27}$

6 -4

8 18

10 810

12 -26

14 -12

3 -1

5 $-\frac{1}{16}$

7 -900

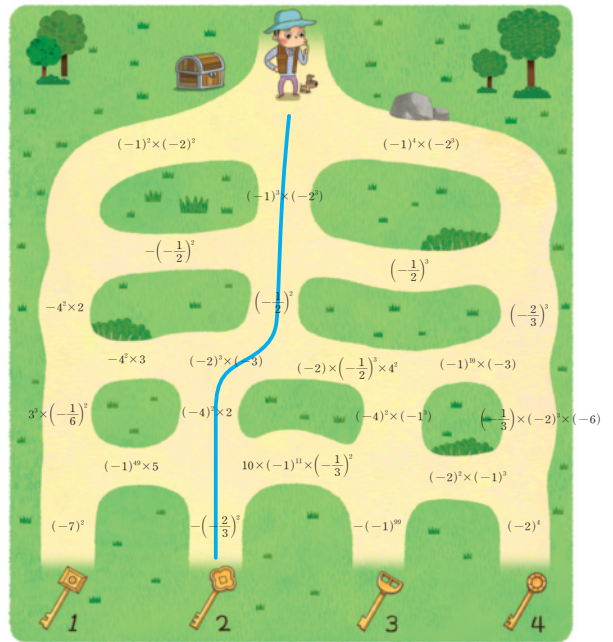
9 $\frac{5}{4}$

11 1023

13 26

15 314

1



$$5 \quad -\left(-\frac{1}{2}\right)^4 = -\left\{\left(-\frac{1}{2}\right) \times \left(-\frac{1}{2}\right) \times \left(-\frac{1}{2}\right) \times \left(-\frac{1}{2}\right)\right\} \\ = -\frac{1}{16}$$

$$6 \quad (-2)^2 \times (-1)^3 = 4 \times (-1) = -4$$

$$7 \quad -10^2 \times (-3)^2 = -100 \times 9 = -900$$

$$8 \quad (-1)^3 \times \left(-\frac{3}{2}\right)^2 \times (-2^3) = (-1) \times \frac{9}{4} \times (-8) = 18$$

$$9 \quad (-1)^5 \times \left(-\frac{1}{2}\right)^2 \times (-5) = (-1) \times \frac{1}{4} \times (-5) = \frac{5}{4}$$

$$10 \quad 45 \times (20 - 2) = 45 \times 20 - 45 \times 2 = 900 - 90 = 810$$

$$11 \quad (100 - 7) \times 11 = 100 \times 11 - 7 \times 11 = 1100 - 77 = 1023$$

$$12 \quad (-24) \times \left(-\frac{1}{6} + \frac{5}{4}\right) = (-24) \times \left(-\frac{1}{6}\right) + (-24) \times \frac{5}{4} \\ = 4 + (-30) = -26$$

$$13 \quad \left(-\frac{4}{7} + \frac{3}{2}\right) \times 28 = -\frac{4}{7} \times 28 + \frac{3}{2} \times 28 \\ = -16 + 42 = 26$$

$$14 \quad (-12) \times \frac{9}{5} - (-12) \times \frac{4}{5} = (-12) \times \left(\frac{9}{5} - \frac{4}{5}\right) \\ = (-12) \times 1 = -12$$

$$15 \quad 108 \times 3.14 - 8 \times 3.14 = (108 - 8) \times 3.14 \\ = 100 \times 3.14 = 314$$

25 나눗셈

p. 136

1 $\frac{5}{8}$

2 $\frac{3}{5}$

3 18

4 40

5 $\frac{3}{11}$

6 $\frac{3}{20}$

7 3

8 $\frac{4}{7}$

9 $\frac{35}{24}$

10 $\frac{49}{20}$

26 정수의 나눗셈 (1): 부호가 같은 두 수

p. 137

1 $+, 4$

2 8

3 4

4 5

5 9

6 7

7 4

8 6

9 $\frac{1}{4}$ 연구 $8, \frac{1}{4}$

10 $\frac{8}{9}$

27 정수의 나눗셈 (2): 부호가 다른 두 수

p. 138

1 $-, -8$

2 -3

3 -7

4 -12

5 -5

6 -1

7 0

8 0

9 $-\frac{4}{7}$

10 $-\frac{2}{5}$

28 역수

p. 139

1 $\frac{1}{3}$

2 4

3 10

4 $\frac{5}{4}$

5 $\frac{7}{2}$

6 $\frac{8}{9}$

7 $-\frac{4}{3}$

8 $-\frac{2}{3}$

9 -5

10 $-\frac{1}{3}$

11 -1

12 $-\frac{1}{4}$

13 -5

14 $\frac{10}{7}$

15 2

13 $-0.2 = -\frac{1}{5}$ 이므로 -0.2의 역수는 -5이다.

14 $0.7 = \frac{7}{10}$ 이므로 0.7의 역수는 $\frac{10}{7}$ 이다.

15 $0.5 = \frac{1}{2}$ 이므로 0.5의 역수는 2이다.

29 역수를 이용한 나눗셈

p. 140 ~ p. 142

1 $\frac{1}{8}$

2 $-\frac{1}{15}$

3 $-\frac{2}{15}$

4 $\frac{3}{10}$

5 10

6 $-\frac{10}{3}$

7 $\frac{25}{4}$

8 -8

9 6

10 $-\frac{4}{3}$

11 $\frac{15}{7}$

12 $-\frac{2}{3}$

13 $-\frac{3}{2}$

14 -4

15 0

16 0

17 $-\frac{7}{4}$

18 $\frac{2}{3}$

19 -9

20 $\frac{3}{5}$

21 -6

22 $-\frac{6}{5}$

23 4

24 $-\frac{8}{5}$

25 16

26 $-\frac{1}{100}$

27 3

28 $\frac{5}{2}$

29 $\frac{3}{5}$

30 $-\frac{32}{27}$

31 $-\frac{5}{16}$

32 $-\frac{1}{8}$

33 $-\frac{1}{7}$

34 2

5 $(+15) \div \left(+\frac{3}{2}\right) = (+15) \times \left(+\frac{2}{3}\right) = 10$

6 $(-4) \div \left(+\frac{6}{5}\right) = (-4) \times \left(+\frac{5}{6}\right) = -\frac{10}{3}$

7 $(-10) \div \left(-\frac{8}{5}\right) = (-10) \times \left(-\frac{5}{8}\right) = \frac{25}{4}$

8 $(+6) \div \left(-\frac{3}{4}\right) = (+6) \times \left(-\frac{4}{3}\right) = -8$

9 $\left(-\frac{4}{3}\right) \div \left(-\frac{2}{9}\right) = \left(-\frac{4}{3}\right) \times \left(-\frac{9}{2}\right) = 6$

10 $\left(+\frac{8}{9}\right) \div \left(-\frac{2}{3}\right) = \left(+\frac{8}{9}\right) \times \left(-\frac{3}{2}\right) = -\frac{4}{3}$

11 $\left(+\frac{6}{7}\right) \div \left(+\frac{2}{5}\right) = \left(+\frac{6}{7}\right) \times \left(+\frac{5}{2}\right) = \frac{15}{7}$

12 $\left(+\frac{3}{5}\right) \div \left(-\frac{9}{10}\right) = \left(+\frac{3}{5}\right) \times \left(-\frac{10}{9}\right) = -\frac{2}{3}$

$$13 \quad \left(+\frac{3}{4}\right) \div \left(-\frac{1}{2}\right) = \left(+\frac{3}{4}\right) \times (-2) = -\frac{3}{2}$$

$$14 \quad \left(-\frac{2}{3}\right) \div \left(+\frac{1}{6}\right) = \left(-\frac{2}{3}\right) \times (+6) = -4$$

$$17 \quad \left(+\frac{5}{6}\right) \div \left(-\frac{10}{21}\right) = \left(+\frac{5}{6}\right) \times \left(-\frac{21}{10}\right) = -\frac{7}{4}$$

$$18 \quad \left(-\frac{3}{7}\right) \div \left(-\frac{9}{14}\right) = \left(-\frac{3}{7}\right) \times \left(-\frac{14}{9}\right) = \frac{2}{3}$$

$$19 \quad (+3.6) \div (-0.4) = \left(+\frac{18}{5}\right) \div \left(-\frac{2}{5}\right) \\ = \left(+\frac{18}{5}\right) \times \left(-\frac{5}{2}\right) = -9$$

$$20 \quad (-0.9) \div (-1.5) = \left(-\frac{9}{10}\right) \div \left(-\frac{3}{2}\right) \\ = \left(-\frac{9}{10}\right) \times \left(-\frac{2}{3}\right) = \frac{3}{5}$$

$$21 \quad (-1.2) \div \left(+\frac{1}{5}\right) = \left(-\frac{6}{5}\right) \div \left(+\frac{1}{5}\right) \\ = \left(-\frac{6}{5}\right) \times (+5) = -6$$

$$22 \quad (+2.8) \div \left(-\frac{7}{3}\right) = \left(+\frac{14}{5}\right) \div \left(-\frac{7}{3}\right) \\ = \left(+\frac{14}{5}\right) \times \left(-\frac{3}{7}\right) = -\frac{6}{5}$$

$$23 \quad (-56) \div (+2) \div (-7) = (-56) \times \left(+\frac{1}{2}\right) \times \left(-\frac{1}{7}\right) \\ = 4$$

$$24 \quad (-32) \div (-4) \div (-5) = (-32) \times \left(-\frac{1}{4}\right) \times \left(-\frac{1}{5}\right) \\ = -\frac{8}{5}$$

$$25 \quad (+8) \div \left(-\frac{1}{6}\right) \div (-3) = (+8) \times (-6) \times \left(-\frac{1}{3}\right) \\ = 16$$

$$26 \quad \left(+\frac{4}{5}\right) \div (-10) \div (+8) \\ = \left(+\frac{4}{5}\right) \times \left(-\frac{1}{10}\right) \times \left(+\frac{1}{8}\right) = -\frac{1}{100}$$

$$27 \quad (-175) \div (-35) \div \frac{5}{3} = (-175) \times \left(-\frac{1}{35}\right) \times \frac{3}{5} = 3$$

$$28 \quad (-6) \div \frac{3}{5} \div (-4) = (-6) \times \frac{5}{3} \times \left(-\frac{1}{4}\right) = \frac{5}{2}$$

$$29 \quad \left(-\frac{1}{5}\right) \div \frac{1}{2} \div \left(-\frac{2}{3}\right) = \left(-\frac{1}{5}\right) \times 2 \times \left(-\frac{3}{2}\right) = \frac{3}{5}$$

$$30 \quad \frac{4}{5} \div \left(-\frac{3}{4}\right) \div \frac{9}{10} = \frac{4}{5} \times \left(-\frac{4}{3}\right) \times \frac{10}{9} = -\frac{32}{27}$$

$$31 \quad \left(-\frac{3}{8}\right) \div \left(-\frac{6}{7}\right) \div \left(-\frac{7}{5}\right) = \left(-\frac{3}{8}\right) \times \left(-\frac{7}{6}\right) \times \left(-\frac{5}{7}\right) \\ = -\frac{5}{16}$$

$$32 \quad \frac{7}{10} \div \left(-\frac{6}{5}\right) \div \frac{14}{3} = \frac{7}{10} \times \left(-\frac{5}{6}\right) \times \frac{3}{14} = -\frac{1}{8}$$

$$33 \quad \left(+\frac{4}{7}\right) \div \left(-\frac{10}{3}\right) \div (+1.2) \\ = \left(+\frac{4}{7}\right) \times \left(-\frac{3}{10}\right) \times \left(+\frac{5}{6}\right) = -\frac{1}{7}$$

$$34 \quad \left(-\frac{4}{5}\right) \div \left(-\frac{2}{7}\right) \div (+1.4) \\ = \left(-\frac{4}{5}\right) \times \left(-\frac{7}{2}\right) \times \left(+\frac{5}{7}\right) = 2$$

30 유리수의 곱셈과 나눗셈의 혼합 계산(1) p. 143

1	-3	2	-2
3	30	4	28
5	-60	6	2
7	8	8	$-\frac{1}{3}$
9	3	10	3

$$1 \quad (-12) \times (-2) \div (-8) = (+24) \div (-8) = -3$$

$$2 \quad (-4) \times (-3) \div (-6) = (+12) \div (-6) = -2$$

$$3 \quad 20 \div (-4) \times (-6) = (-5) \times (-6) = 30$$

$$4 \quad (-32) \div 8 \times (-7) = (-4) \times (-7) = 28$$

$$5 \quad (-4) \div \left(-\frac{6}{5}\right) \times (-18) = (-4) \times \left(-\frac{5}{6}\right) \times (-18) \\ = -60$$

$$6 \quad \left(-\frac{5}{6}\right) \times 4 \div \left(-\frac{5}{3}\right) = \left(-\frac{5}{6}\right) \times 4 \times \left(-\frac{3}{5}\right) = 2$$

$$7 \quad \frac{2}{3} \times (-9) \div \left(-\frac{3}{4}\right) = \frac{2}{3} \times (-9) \times \left(-\frac{4}{3}\right) = 8$$

$$8 \quad \left(-\frac{3}{14}\right) \div \left(-\frac{1}{7}\right) \times \left(-\frac{2}{9}\right) \\ = \left(-\frac{3}{14}\right) \times (-7) \times \left(-\frac{2}{9}\right) = -\frac{1}{3}$$

$$9 \quad \left(-\frac{4}{5}\right) \times \frac{10}{3} \div \left(-\frac{8}{9}\right) = \left(-\frac{4}{5}\right) \times \frac{10}{3} \times \left(-\frac{9}{8}\right) = 3$$

$$10 \quad \frac{4}{3} \div \left(-\frac{7}{6}\right) \times \left(-\frac{21}{8}\right) = \frac{4}{3} \times \left(-\frac{6}{7}\right) \times \left(-\frac{21}{8}\right) = 3$$

31 유리수의 곱셈과 나눗셈의 혼합 계산(2)
: 거듭제곱 포함

p. 144 ~ p. 145

1 -1	2 4
3 1	4 1
5 $-\frac{9}{2}$	6 $-\frac{27}{4}$
7 -36	8 -500
9 $-\frac{8}{3}$	10 -15
11 3	12 $-\frac{1}{20}$
13 256	14 2
15 -3	16 -2
17 $-\frac{1}{2}$	18 $\frac{1}{4}$
19 $\frac{2}{5}$	20 $-\frac{5}{18}$
21 $\frac{3}{4}$	22 $-\frac{25}{6}$
23 $\frac{1}{6}$	24 24

$$1 \quad 2^3 \div (-2)^3 = 8 \div (-8) = -1$$

$$2 \quad (-2)^4 \div (-2)^2 = 16 \div 4 = 4$$

$$3 \quad (-1)^3 \div (-1)^5 = (-1) \div (-1) = 1$$

$$4 \quad (-1)^4 \div (-1)^2 = 1 \div 1 = 1$$

$$5 \quad (-3)^2 \div (-2) = 9 \div (-2) = -\frac{9}{2}$$

$$6 \quad -3^3 \div (-2)^2 = -27 \div 4 = -\frac{27}{4}$$

$$7 \quad (-4)^2 \div (-2^2) \times 3^2 = 16 \div (-4) \times 9 \\ = (-4) \times 9 = -36$$

$$8 \quad (-5)^3 \times (-2)^2 \div (-1)^{10} = (-125) \times 4 \div 1 = -500$$

$$9 \quad (-2)^3 \div (-3)^2 \times 3 = (-8) \div 9 \times 3 \\ = (-8) \times \frac{1}{9} \times 3 = -\frac{8}{3}$$

$$10 \quad (-6) \times (-5^2) \div (-10) = (-6) \times (-25) \div (-10) \\ = -15$$

$$11 \quad (-3)^2 \times (-4) \div (-12) = 9 \times (-4) \div (-12) = 3$$

$$12 \quad (-2)^2 \div 8 \div (-10) = 4 \times \frac{1}{8} \times \left(-\frac{1}{10}\right) = -\frac{1}{20}$$

$$13 \quad (-8) \div \left(-\frac{1}{2}\right) \times 4^2 = (-8) \times (-2) \times 16 = 256$$

$$14 \quad \frac{4}{5} \div (-2)^2 \times 10 = \frac{4}{5} \div 4 \times 10 = \frac{4}{5} \times \frac{1}{4} \times 10 = 2$$

$$15 \quad \left(-\frac{1}{2}\right)^2 \times 3 \div \left(-\frac{1}{4}\right) = \frac{1}{4} \times 3 \times (-4) = -3$$

$$16 \quad -1^2 \div \left(-\frac{6}{5}\right) \times \left(-\frac{12}{5}\right) = -1 \times \left(-\frac{5}{6}\right) \times \left(-\frac{12}{5}\right) \\ = -2$$

$$17 \quad \frac{5}{16} \div \left(-\frac{1}{2}\right)^2 \times \left(-\frac{2}{5}\right) = \frac{5}{16} \div \frac{1}{4} \times \left(-\frac{2}{5}\right) \\ = \frac{5}{16} \times 4 \times \left(-\frac{2}{5}\right) = -\frac{1}{2}$$

$$18 \quad (-1)^2 \div \left(-\frac{2}{3}\right)^2 \times \left(-\frac{1}{3}\right)^2 = 1 \div \frac{4}{9} \times \frac{1}{9} \\ = 1 \times \frac{9}{4} \times \frac{1}{9} = \frac{1}{4}$$

$$19 \quad \frac{2}{5} \times \left(-\frac{3}{2}\right)^2 \div \frac{9}{4} = \frac{2}{5} \times \frac{9}{4} \times \frac{4}{9} = \frac{2}{5}$$

$$20 \quad \left(-\frac{5}{2}\right)^3 \times \left(\frac{2}{3}\right)^2 \div (-5)^2 = \left(-\frac{125}{8}\right) \times \frac{4}{9} \div 25 \\ = \left(-\frac{125}{8}\right) \times \frac{4}{9} \times \frac{1}{25} \\ = -\frac{5}{18}$$

$$21 \quad \left(-\frac{1}{2}\right)^3 \div \left(-\frac{3}{2}\right) \div \frac{1}{9} = \left(-\frac{1}{8}\right) \times \left(-\frac{2}{3}\right) \times 9 = \frac{3}{4}$$

$$22 \quad \frac{8}{3} \div (-4) \div \left(-\frac{2}{5}\right)^2 = \frac{8}{3} \div (-4) \div \frac{4}{25} \\ = \frac{8}{3} \times \left(-\frac{1}{4}\right) \times \frac{25}{4} = -\frac{25}{6}$$

$$23 \quad \frac{5}{12} \times (+3.6) \div (-3)^2 = \frac{5}{12} \times \left(+\frac{18}{5}\right) \div 9 \\ = \frac{5}{12} \times \left(+\frac{18}{5}\right) \times \frac{1}{9} = \frac{1}{6}$$

$$24 \quad (-0.8) \times (-2)^3 \div \frac{4}{15} = \left(-\frac{4}{5}\right) \times (-8) \times \frac{15}{4} = 24$$

STEP 2

기본연산 집중연습 | 25~31

p. 146 ~ p. 147

- | | |
|-------------------|-------------------|
| 1 2 | 2 -3 |
| 3 5 | 4 -6 |
| 5 0 | 6 0 |
| 7 $\frac{1}{5}$ | 8 -6 |
| 9 $\frac{4}{3}$ | 10 $-\frac{2}{7}$ |
| 11 $-\frac{9}{2}$ | 12 21 |
| 13 $\frac{5}{18}$ | 14 $-\frac{5}{6}$ |
| 15 $-\frac{2}{3}$ | 16 $\frac{5}{6}$ |
| 17 하연 | |

17 동환 : $(-2) \times \left(-\frac{5}{8}\right) \div \left(-\frac{7}{4}\right)$

$$= (-2) \times \left(-\frac{5}{8}\right) \times \left(-\frac{4}{7}\right)$$

$$= -\left(2 \times \frac{5}{8} \times \frac{4}{7}\right) = -\frac{5}{7}$$
지혜 : $\left(-\frac{8}{15}\right) \div \left(-\frac{9}{2}\right) \div \left(-\frac{4}{5}\right)$

$$= \left(-\frac{8}{15}\right) \times \left(-\frac{2}{9}\right) \times \left(-\frac{5}{4}\right)$$

$$= -\left(\frac{8}{15} \times \frac{2}{9} \times \frac{5}{4}\right) = -\frac{4}{27}$$
현은 : $\frac{1}{3} \times (-0.5) \div \left(-\frac{3}{8}\right)$

$$= \frac{1}{3} \times \left(-\frac{1}{2}\right) \times \left(-\frac{8}{3}\right)$$

$$= +\left(\frac{1}{3} \times \frac{1}{2} \times \frac{8}{3}\right) = \frac{4}{9}$$
준인 : $(-2)^3 \times 5 \div (-4)$

$$= (-8) \times 5 \times \left(-\frac{1}{4}\right)$$

$$= +\left(8 \times 5 \times \frac{1}{4}\right) = 10$$
은호 : $(-3)^2 \times (-2^2) \div (-6)$

$$= 9 \times (-4) \times \left(-\frac{1}{6}\right)$$

$$= +\left(9 \times 4 \times \frac{1}{6}\right) = 6$$
하연 : $(-1)^5 \div \left(-\frac{2}{3}\right)^2 \times \frac{5}{6}$

$$= (-1) \div \frac{4}{9} \times \frac{5}{6}$$

$$= (-1) \times \frac{9}{4} \times \frac{5}{6} = -\frac{15}{8}$$

따라서 계산 결과가 가장 작은 학생은 하연이므로 심부름을 하게 되는 학생은 하연이다.

STEP 1

32 유리수의 덧셈, 뺄셈, 곱셈, 나눗셈의 혼합 계산(1)

p. 148 ~ p. 149

- | | |
|--------|--------|
| 1 -14 | 2 -1 |
| 3 -3 | 4 14 |
| 5 -87 | 6 16 |
| 7 -6 | 8 364 |
| 9 43 | 10 9 |
| 11 -93 | 12 4 |
| 13 22 | 14 -35 |
| 15 8 | 16 -19 |
| 17 7 | 18 -14 |
| 19 -8 | 20 12 |

1 $(-2) + 4 \times (-3) = (-2) + (-12) = -14$

2 $13 + 2 \times (-7) = 13 + (-14) = -1$

3 $-7 - 12 \div (-3) = -7 - (-4) = -7 + (+4) = -3$

4 $12 - 8 \div (-4) = 12 - (-2) = 12 + (+2) = 14$

5 $9 - (-4)^2 \times 6 = 9 - 16 \times 6 = 9 - 96 = -87$

6 $12 - (-6)^2 \div (-9) = 12 - 36 \div (-9)$

$$= 12 - (-4)$$

$$= 12 + (+4) = 16$$

7 $-3^2 + (-6) \div (-2) = -9 + (+3) = -6$

8 $(-5)^2 \times 7 - (-7) \times 3^3 = 25 \times 7 - (-7) \times 27$

$$= 175 - (-189)$$

$$= 175 + (+189) = 364$$

9 $3 - (-4)^2 \div (3-1) \times (-5) = 3 - 16 \div 2 \times (-5)$

$$= 3 - 8 \times (-5)$$

$$= 3 - (-40)$$

$$= 3 + (+40) = 43$$

10 $(-1)^2 \times 5 - 16 \div (2-6) = 1 \times 5 - 16 \div (-4)$

$$= 5 - (-4)$$

$$= 5 + (+4) = 9$$

11 $3 \times \{-6 - (-5)^2\} = 3 \times (-6 - 25)$

$$= 3 \times (-31) = -93$$

12 $16 \div \{(-3) + 5\} - 4 = 16 \div 2 - 4$

$$= 8 - 4 = 4$$

$$\begin{aligned}
 13 \quad 12 - \{3 \times (-4) - (-2)\} &= 12 - \{-12 + (+2)\} \\
 &= 12 - (-10) \\
 &= 12 + (+10) \\
 &= 22
 \end{aligned}$$

$$\begin{aligned}
 14 \quad -5 - \{2 + (-7)\} \times (-6) &= -5 - (-5) \times (-6) \\
 &= -5 - 30 \\
 &= -35
 \end{aligned}$$

$$\begin{aligned}
 15 \quad (-4^2) \div \{6 + (-2)^3\} &= (-16) \div \{6 + (-8)\} \\
 &= (-16) \div (-2) \\
 &= 8
 \end{aligned}$$

$$\begin{aligned}
 16 \quad (-9) \div 3 + \{-7 - (-5)^2\} \div 2 \\
 &= (-3) + (-7 - 25) \div 2 \\
 &= (-3) + (-32) \div 2 \\
 &= (-3) + (-16) \\
 &= -19
 \end{aligned}$$

$$\begin{aligned}
 17 \quad 30 - \{4 + (-3)^2 \times 4 - 17\} &= 30 - (4 + 9 \times 4 - 17) \\
 &= 30 - (4 + 36 - 17) \\
 &= 30 - 23 \\
 &= 7
 \end{aligned}$$

$$\begin{aligned}
 18 \quad (-3) \times \{2 + 9 \div (-3)^2\} - 5 \\
 &= (-3) \times (2 + 9 \div 9) - 5 \\
 &= (-3) \times (2 + 1) - 5 \\
 &= (-3) \times 3 - 5 \\
 &= -9 - 5 \\
 &= -14
 \end{aligned}$$

$$\begin{aligned}
 19 \quad 4 - \{-9 + (-3)^2 \times 5\} \div 3 \\
 &= 4 - (-9 + 9 \times 5) \div 3 \\
 &= 4 - (-9 + 45) \div 3 \\
 &= 4 - 36 \div 3 \\
 &= 4 - 12 \\
 &= -8
 \end{aligned}$$

$$\begin{aligned}
 20 \quad 2 - [\{(-2)^3 - 14 \div 2\} + 5] \\
 &= 2 - [\{(-8) - 7\} + 5] \\
 &= 2 - \{(-15) + 5\} \\
 &= 2 - (-10) \\
 &= 2 + (+10) \\
 &= 12
 \end{aligned}$$

33 유리수의 덧셈, 뺄셈, 곱셈, 나눗셈의 혼합 계산(2)

p. 150 ~ p. 152

1	13	2	4
3	$\frac{2}{9}$	4	9
5	-6	6	$\frac{1}{2}$
7	-14	8	12
9	$\frac{13}{8}$	10	$\frac{3}{8}$
11	4	12	$\frac{83}{30}$
13	-3	14	$\frac{15}{4}$
15	3	16	$\frac{7}{3}$
17	5	18	76
19	$\frac{28}{9}$	20	$-\frac{2}{7}$
21	$-\frac{5}{2}$	22	12

$$1 \quad 9 - 6 \times \left(-\frac{2}{3}\right) = 9 - (-4) = 9 + (+4) = 13$$

$$\begin{aligned}
 2 \quad \frac{1}{4} - (-3) \div \frac{4}{5} &= \frac{1}{4} - (-3) \times \frac{5}{4} \\
 &= \frac{1}{4} - \left(-\frac{15}{4}\right) \\
 &= \frac{1}{4} + \left(+\frac{15}{4}\right) \\
 &= \frac{16}{4} = 4
 \end{aligned}$$

$$\begin{aligned}
 3 \quad (-3) \times \frac{1}{27} - (-3) \div 9 &= \left(-\frac{1}{9}\right) - \left(-\frac{1}{3}\right) \\
 &= \left(-\frac{1}{9}\right) + \left(+\frac{1}{3}\right) = \frac{2}{9}
 \end{aligned}$$

$$\begin{aligned}
 4 \quad -9 \div \left(-\frac{3}{2}\right) - 6 \times \left(-\frac{1}{2}\right) \\
 &= -9 \times \left(-\frac{2}{3}\right) - 6 \times \left(-\frac{1}{2}\right) \\
 &= 6 - (-3) \\
 &= 6 + (+3) = 9
 \end{aligned}$$

$$\begin{aligned}
 5 \quad 6 - (-3)^2 \div \frac{3}{4} &= 6 - 9 \div \frac{3}{4} \\
 &= 6 - 9 \times \frac{4}{3} \\
 &= 6 - 12 = -6
 \end{aligned}$$

$$\begin{aligned}
 6 \quad \left(-\frac{1}{2}\right)^2 \times \frac{6}{5} - \left(-\frac{1}{5}\right) &= \frac{1}{4} \times \frac{6}{5} - \left(-\frac{1}{5}\right) \\
 &= \frac{3}{10} + \left(+\frac{1}{5}\right) \\
 &= \frac{5}{10} = \frac{1}{2}
 \end{aligned}$$

$$\begin{aligned} 7 \quad & \left(-\frac{1}{4}\right)^2 \times 16 - 9 \div \frac{3}{5} = \frac{1}{16} \times 16 - 9 \times \frac{5}{3} \\ & = 1 - 15 = -14 \end{aligned}$$

$$\begin{aligned} 8 \quad & \frac{1}{4} \div \left(-\frac{1}{2}\right)^3 - (-6) \times \frac{7}{3} = \frac{1}{4} \div \left(-\frac{1}{8}\right) - (-6) \times \frac{7}{3} \\ & = \frac{1}{4} \times (-8) - (-6) \times \frac{7}{3} \\ & = (-2) - (-14) \\ & = (-2) + (+14) \\ & = 12 \end{aligned}$$

$$\begin{aligned} 9 \quad & \frac{2}{3} \times \frac{9}{4} - \left(\frac{1}{2} - \frac{2}{3}\right) \div \frac{4}{3} = \frac{2}{3} \times \frac{9}{4} - \left(-\frac{1}{6}\right) \times \frac{3}{4} \\ & = \frac{3}{2} - \left(-\frac{1}{8}\right) \\ & = \frac{3}{2} + \left(+\frac{1}{8}\right) \\ & = \frac{13}{8} \end{aligned}$$

$$\begin{aligned} 10 \quad & \left(\frac{5}{3} - \frac{1}{6}\right)^2 \div \frac{2}{3} - 3 = \left(\frac{3}{2}\right)^2 \div \frac{2}{3} - 3 \\ & = \frac{9}{4} \times \frac{3}{2} - 3 \\ & = \frac{27}{8} - 3 \\ & = \frac{3}{8} \end{aligned}$$

$$\begin{aligned} 11 \quad & (-6)^2 \times \frac{5}{9} + 0.5 \times (-2^5) = 36 \times \frac{5}{9} + \frac{1}{2} \times (-32) \\ & = 20 + (-16) \\ & = 4 \end{aligned}$$

$$\begin{aligned} 12 \quad & \left(-\frac{1}{2} + \frac{1}{3}\right) \div 0.2 - 3^2 \div \left(-\frac{5}{2}\right) \\ & = \left(-\frac{1}{6}\right) \div \frac{1}{5} - 9 \div \left(-\frac{5}{2}\right) \\ & = \left(-\frac{1}{6}\right) \times 5 - 9 \times \left(-\frac{2}{5}\right) \\ & = \left(-\frac{5}{6}\right) - \left(-\frac{18}{5}\right) \\ & = \left(-\frac{5}{6}\right) + \left(+\frac{18}{5}\right) \\ & = \frac{83}{30} \end{aligned}$$

$$\begin{aligned} 13 \quad & \left\{15 - (15 - 27) \times \frac{1}{4}\right\} \div (-6) \\ & = \left\{15 - (-12) \times \frac{1}{4}\right\} \div (-6) \\ & = \{15 - (-3)\} \div (-6) \\ & = 18 \div (-6) \\ & = -3 \end{aligned}$$

$$\begin{aligned} 14 \quad & 3 + \frac{1}{2} \div \left\{(5 - 3) \times \left(-\frac{2}{3}\right) + 2\right\} \\ & = 3 + \frac{1}{2} \div \left\{2 \times \left(-\frac{2}{3}\right) + 2\right\} \\ & = 3 + \frac{1}{2} \div \left\{\left(-\frac{4}{3}\right) + 2\right\} \\ & = 3 + \frac{1}{2} \div \frac{2}{3} \\ & = 3 + \frac{1}{2} \times \frac{3}{2} \\ & = 3 + \frac{3}{4} \\ & = \frac{15}{4} \end{aligned}$$

$$\begin{aligned} 15 \quad & 5 - \left\{\left(\frac{1}{4} - \frac{2}{3}\right) \div \frac{5}{3}\right\} \times (-2)^3 \\ & = 5 - \left\{\left(-\frac{5}{12}\right) \times \frac{3}{5}\right\} \times (-8) \\ & = 5 - \left(-\frac{1}{4}\right) \times (-8) \\ & = 5 - 2 \\ & = 3 \end{aligned}$$

$$\begin{aligned} 16 \quad & 2 \times \left\{\left(-\frac{1}{2}\right)^2 \div \left(\frac{5}{6} - \frac{4}{3}\right) + 2\right\} - \frac{2}{3} \\ & = 2 \times \left\{\frac{1}{4} \div \left(-\frac{1}{2}\right) + 2\right\} - \frac{2}{3} \\ & = 2 \times \left\{\frac{1}{4} \times (-2) + 2\right\} - \frac{2}{3} \\ & = 2 \times \left\{\left(-\frac{1}{2}\right) + 2\right\} - \frac{2}{3} \\ & = 2 \times \frac{3}{2} - \frac{2}{3} \\ & = 3 - \frac{2}{3} \\ & = \frac{7}{3} \end{aligned}$$

$$\begin{aligned} 17 \quad & (-25) \div \left\{(-4)^2 \times \left(-\frac{1}{2}\right) - (-3)\right\} \\ & = (-25) \div \left\{16 \times \left(-\frac{1}{2}\right) - (-3)\right\} \\ & = (-25) \div \{(-8) + (+3)\} \\ & = (-25) \div (-5) \\ & = 5 \end{aligned}$$

$$\begin{aligned} 18 \quad & (-2)^2 - 3 \div \left\{\left(\frac{2}{3} - \frac{1}{2}\right) \div (-2^3)\right\} \\ & = 4 - 3 \div \left\{\left(\frac{2}{3} - \frac{1}{2}\right) \div (-4)\right\} \\ & = 4 - 3 \div \left\{\frac{1}{6} \div (-4)\right\} \\ & = 4 - 3 \div \left\{\frac{1}{6} \times \left(-\frac{1}{4}\right)\right\} \\ & = 4 - 3 \div \left(-\frac{1}{24}\right) \end{aligned}$$

$$\begin{aligned}
&= 4 - 3 \times (-24) \\
&= 4 - (-72) \\
&= 4 + (+72) = 76
\end{aligned}$$

$$\begin{aligned}
19 \quad & 5 - \left[1 - \left\{ \frac{3}{4} - (-2)^2 \right\} \right] \times \frac{4}{9} \\
&= 5 - \left\{ 1 - \left(\frac{3}{4} - 4 \right) \right\} \times \frac{4}{9} \\
&= 5 - \left\{ 1 - \left(-\frac{13}{4} \right) \right\} \times \frac{4}{9} \\
&= 5 - \left\{ 1 + \left(+\frac{13}{4} \right) \right\} \times \frac{4}{9} \\
&= 5 - \frac{17}{4} \times \frac{4}{9} \\
&= 5 - \frac{17}{9} \\
&= \frac{28}{9}
\end{aligned}$$

$$\begin{aligned}
20 \quad & (-2)^2 + 15 \div \left\{ (-3)^3 \times \frac{1}{18} - 2 \right\} \\
&= 4 + 15 \div \left\{ (-27) \times \frac{1}{18} - 2 \right\} \\
&= 4 + 15 \div \left\{ \left(-\frac{3}{2} \right) - 2 \right\} \\
&= 4 + 15 \div \left(-\frac{7}{2} \right) \\
&= 4 + 15 \times \left(-\frac{2}{7} \right) \\
&= 4 + \left(-\frac{30}{7} \right) \\
&= -\frac{2}{7}
\end{aligned}$$

$$\begin{aligned}
21 \quad & 32 - 4 \times \left[5 - \left\{ \left(-\frac{3}{2} \right)^3 - \left(\frac{7}{4} - \frac{3}{2} \right) \right\} \right] \\
&= 32 - 4 \times \left[5 - \left\{ \left(-\frac{27}{8} \right) - \frac{1}{4} \right\} \right] \\
&= 32 - 4 \times \left\{ 5 - \left(-\frac{29}{8} \right) \right\} \\
&= 32 - 4 \times \frac{69}{8} \\
&= 32 - \frac{69}{2} \\
&= -\frac{5}{2}
\end{aligned}$$

$$\begin{aligned}
22 \quad & \left(-\frac{4}{9} \right) \times \left[(-3)^3 - \left\{ 6 + (-2) \div \frac{1}{3} \right\} \right] \\
&= \left(-\frac{4}{9} \right) \times [(-27) - \{6 + (-2) \times 3\}] \\
&= \left(-\frac{4}{9} \right) \times \{(-27) - 0\} \\
&= \left(-\frac{4}{9} \right) \times (-27) \\
&= 12
\end{aligned}$$

STEP 2

기본연산 집중연습 | 32~33

p. 153 ~ p. 154

1 3	2 12
3 115	4 14
5 -3	6 20
7 -28	8 -5
9 8	10 -4
11 1	12 -2
13 $-\frac{1}{14}$	14 -14
15 $\frac{1}{15}$	16 13
17 12	18 3
19 19	20 $\frac{1}{2}$
21 6	22 -1

이상한 사람들이 모이는 곳은? 치과

$$\begin{aligned}
1 \quad & -7 - 2 \times (-5) = -7 - (-10) \\
&= -7 + (+10) = 3 \\
2 \quad & 24 \div (-8) - 5 \times (-3) = (-3) - (-15) \\
&= (-3) + (+15) = 12 \\
3 \quad & 20 \times 3 - (-18 + 7) \times 5 = 60 - (-11) \times 5 \\
&= 60 - (-55) \\
&= 60 + (+55) = 115 \\
4 \quad & 4^3 - (-5^2) \times (-2) = 64 - (-25) \times (-2) \\
&= 64 - 50 = 14 \\
5 \quad & (-2)^3 \div 4 + (-1)^5 = (-8) \div 4 + (-1) \\
&= (-2) + (-1) = -3 \\
6 \quad & 6 + 54 \div (-3)^2 - (-8) = 6 + 54 \div 9 + (+8) \\
&= 6 + 6 + (+8) \\
&= 20 \\
7 \quad & -4 + 6 \times (21 - 5^2) = -4 + 6 \times (21 - 25) \\
&= -4 + 6 \times (-4) \\
&= -4 + (-24) \\
&= -28 \\
8 \quad & 18 \div (-5 - 2^2) - 3 = 18 \div (-5 - 4) - 3 \\
&= 18 \div (-9) - 3 \\
&= (-2) - 3 \\
&= -5
\end{aligned}$$

$$\begin{aligned}
 9 \quad & 5 - \{3 + (2 - 6)\} \times 3 = 5 - \{3 + (-4)\} \times 3 \\
 & = 5 - (-1) \times 3 \\
 & = 5 - (-3) \\
 & = 5 + (+3) = 8
 \end{aligned}$$

$$\begin{aligned}
 10 \quad & 9 \div \{-3^2 - 4 \times (-3)\} - 7 \\
 & = 9 \div \{-9 - (-12)\} - 7 \\
 & = 9 \div 3 - 7 \\
 & = 3 - 7 \\
 & = -4
 \end{aligned}$$

$$\begin{aligned}
 11 \quad & 7 - \{(-2)^3 + (4 - 9) \times 2\} \div (-3) \\
 & = 7 - \{(-8) + (-5) \times 2\} \div (-3) \\
 & = 7 - \{(-8) + (-10)\} \div (-3) \\
 & = 7 - (-18) \div (-3) \\
 & = 7 - 6 \\
 & = 1
 \end{aligned}$$

$$\begin{aligned}
 12 \quad & 15 - [3 - \{(-2)^3 - (-5) \div 5\} \times 2] \\
 & = 15 - [3 - \{(-8) - (-5) \div 5\} \times 2] \\
 & = 15 - [3 - \{(-8) - (-1)\} \times 2] \\
 & = 15 - \{3 - (-7) \times 2\} \\
 & = 15 - \{3 - (-14)\} \\
 & = 15 - 17 \\
 & = -2
 \end{aligned}$$

$$13 \quad -\frac{5}{14} + \frac{6}{7} \times \frac{1}{3} = -\frac{5}{14} + \frac{2}{7} = -\frac{1}{14}$$

$$\begin{aligned}
 14 \quad & 6 \div \left(-\frac{3}{2}\right) + \frac{5}{2} \times (-4) = 6 \times \left(-\frac{2}{3}\right) + \frac{5}{2} \times (-4) \\
 & = (-4) + (-10) = -14
 \end{aligned}$$

$$\begin{aligned}
 15 \quad & \frac{1}{6} - \left(-\frac{1}{4}\right)^2 \div \frac{5}{8} = \frac{1}{6} - \frac{1}{16} \times \frac{8}{5} \\
 & = \frac{1}{6} - \frac{1}{10} \\
 & = \frac{5}{30} - \frac{3}{30} \\
 & = \frac{2}{30} = \frac{1}{15}
 \end{aligned}$$

$$\begin{aligned}
 16 \quad & \left(-\frac{3}{8}\right) \div \left(-\frac{1}{2}\right)^3 - (-2)^2 \times \left(-\frac{5}{2}\right) \\
 & = \left(-\frac{3}{8}\right) \div \left(-\frac{1}{8}\right) - 4 \times \left(-\frac{5}{2}\right) \\
 & = \left(-\frac{3}{8}\right) \times (-8) - 4 \times \left(-\frac{5}{2}\right) \\
 & = 3 - (-10) \\
 & = 3 + (+10) = 13
 \end{aligned}$$

$$\begin{aligned}
 17 \quad & \left\{12 - 6 \div \left(-\frac{2}{5}\right)\right\} \times \frac{4}{9} = \left\{12 - 6 \times \left(-\frac{5}{2}\right)\right\} \times \frac{4}{9} \\
 & = \{12 - (-15)\} \times \frac{4}{9} \\
 & = 27 \times \frac{4}{9} \\
 & = 12
 \end{aligned}$$

$$\begin{aligned}
 18 \quad & -\frac{8}{3} \div \left\{-1 + \left(-\frac{1}{3}\right)^2\right\} = -\frac{8}{3} \div \left(-1 + \frac{1}{9}\right) \\
 & = -\frac{8}{3} \div \left(-\frac{8}{9}\right) \\
 & = -\frac{8}{3} \times \left(-\frac{9}{8}\right) \\
 & = 3
 \end{aligned}$$

$$\begin{aligned}
 19 \quad & 7 \times \left\{3 - \left(-\frac{1}{2}\right)^2 \div \left(-\frac{7}{8}\right)\right\} - 4 \\
 & = 7 \times \left\{3 - \frac{1}{4} \times \left(-\frac{8}{7}\right)\right\} - 4 \\
 & = 7 \times \left\{3 - \left(-\frac{2}{7}\right)\right\} - 4 \\
 & = 7 \times \frac{23}{7} - 4 \\
 & = 23 - 4 = 19
 \end{aligned}$$

$$\begin{aligned}
 20 \quad & -\frac{1}{2} - \left\{-3 + \frac{9}{8} \times (-2)^3\right\} \times \frac{1}{12} \\
 & = -\frac{1}{2} - \left\{-3 + \frac{9}{8} \times (-8)\right\} \times \frac{1}{12} \\
 & = -\frac{1}{2} - \{-3 + (-9)\} \times \frac{1}{12} \\
 & = -\frac{1}{2} - (-12) \times \frac{1}{12} \\
 & = -\frac{1}{2} - (-1) \\
 & = -\frac{1}{2} + (+1) = \frac{1}{2}
 \end{aligned}$$

$$\begin{aligned}
 21 \quad & 36 - 24 \times \left\{(-1) + \left(-\frac{3}{2}\right)^2\right\} \\
 & = 36 - 24 \times \left\{(-1) + \frac{9}{4}\right\} \\
 & = 36 - 24 \times \frac{5}{4} \\
 & = 36 - 30 = 6
 \end{aligned}$$

$$\begin{aligned}
 22 \quad & 2 - \frac{9}{2} \times \left\{(-2)^2 \div 3 + 5 \times \left(-\frac{2}{15}\right)\right\} \\
 & = 2 - \frac{9}{2} \times \left\{4 \div 3 + 5 \times \left(-\frac{2}{15}\right)\right\} \\
 & = 2 - \frac{9}{2} \times \left\{\frac{4}{3} + \left(-\frac{2}{3}\right)\right\} \\
 & = 2 - \frac{9}{2} \times \frac{2}{3} \\
 & = 2 - 3 = -1
 \end{aligned}$$

- 1 (1) 13 (2) -7 (3) $-\frac{11}{8}$ (4) 6 (5) $\frac{3}{2}$
 2 (1) -2 (2) 7 (3) $-\frac{41}{10}$ (4) 13.6 (5) 6 (6) $\frac{5}{12}$ (7) -5
 3 (1) 10 (2) -9
 4 (1) -8 (2) -4 (3) -3.3 (4) $-\frac{15}{4}$ (5) 3.1
 5 (1) 18 (2) 14 (3) -6 (4) -0.6 (5) $\frac{4}{15}$
 6 ㉠ 곱셈의 교환법칙 ㉡ 곱셈의 결합법칙
 ① +6 ② -24
 7 (1) 7 (2) 230
 8 (1) -1 (2) $\frac{3}{4}$ (3) $-\frac{5}{8}$ (4) $-\frac{10}{7}$
 9 (1) -5 (2) 7 (3) $-\frac{3}{4}$ (4) $-\frac{1}{12}$ (5) $\frac{55}{6}$
 10 (1) -1 (2) -1 (3) 72 (4) 30 (5) $\frac{1}{25}$
 11 -7

2 (6) $\left(-\frac{5}{6}\right) - \left(-\frac{2}{3}\right) - \left(-\frac{7}{12}\right)$
 $= \left(-\frac{5}{6}\right) + \left(+\frac{2}{3}\right) + \left(+\frac{7}{12}\right)$
 $= \left(-\frac{10}{12}\right) + \left(+\frac{8}{12}\right) + \left(+\frac{7}{12}\right)$
 $= \frac{5}{12}$
 (7) $(-2.2) - (-7.5) + (-10.3)$
 $= (-2.2) + (+7.5) + (-10.3)$
 $= \{(-2.2) + (-10.3)\} + (+7.5)$
 $= (-12.5) + (+7.5)$
 $= -5$

- 4 (1) -2보다 +6만큼 작은 수는
 $-2 - (+6) = -2 + (-6) = -8$
 (2) +5보다 -9만큼 큰 수는
 $(+5) + (-9) = -4$
 (3) -4.3보다 -1만큼 작은 수는
 $-4.3 - (-1) = -4.3 + (+1) = -3.3$
 (4) $+\frac{3}{4}$ 보다 $-\frac{9}{2}$ 만큼 큰 수는
 $\left(+\frac{3}{4}\right) + \left(-\frac{9}{2}\right) = \left(+\frac{3}{4}\right) + \left(-\frac{18}{4}\right) = -\frac{15}{4}$
 (5) -2.8보다 -5.9만큼 작은 수는
 $-2.8 - (-5.9) = -2.8 + (+5.9) = 3.1$

7 (1) $(-20) \times \left\{\frac{2}{5} + \left(-\frac{3}{4}\right)\right\}$
 $= (-20) \times \frac{2}{5} + (-20) \times \left(-\frac{3}{4}\right)$
 $= (-8) + 15 = 7$
 (2) $13 \times 2.3 + 87 \times 2.3 = (13 + 87) \times 2.3$
 $= 100 \times 2.3 = 230$

9 (4) $(-3) \div \left(-\frac{9}{5}\right) \div (-20)$
 $= (-3) \times \left(-\frac{5}{9}\right) \times \left(-\frac{1}{20}\right)$
 $= -\left(3 \times \frac{5}{9} \times \frac{1}{20}\right)$
 $= -\frac{1}{12}$
 (5) $(-10) \div \left(+\frac{3}{2}\right) \times \left(-\frac{11}{8}\right)$
 $= (-10) \times \left(+\frac{2}{3}\right) \times \left(-\frac{11}{8}\right)$
 $= +\left(10 \times \frac{2}{3} \times \frac{11}{8}\right)$
 $= \frac{55}{6}$

10 (1) $-3^4 \div 3^4 = -81 \div 81 = -1$
 (2) $\frac{1}{27} \times (-3)^3 = \frac{1}{27} \times (-27) = -1$
 (3) $(-3)^2 \times (-1^3) \times (-2^3) = 9 \times (-1) \times (-8)$
 $= 72$
 (4) $(-2) \div (-0.6) \times (-3)^2 = (-2) \times \left(-\frac{5}{3}\right) \times 9$
 $= 30$
 (5) $\left(-\frac{2}{3}\right) \times \left(-\frac{1}{6}\right) \div \left(-\frac{5}{3}\right)^2$
 $= \left(-\frac{2}{3}\right) \times \left(-\frac{1}{6}\right) \div \frac{25}{9}$
 $= \left(-\frac{2}{3}\right) \times \left(-\frac{1}{6}\right) \times \frac{9}{25}$
 $= \frac{1}{25}$

11 $4 - 6 \times \left\{2 - \frac{3}{2} \div (-3)^2\right\}$
 $= 4 - 6 \times \left(2 - \frac{3}{2} \div 9\right)$
 $= 4 - 6 \times \left(2 - \frac{3}{2} \times \frac{1}{9}\right)$
 $= 4 - 6 \times \left(2 - \frac{1}{6}\right)$
 $= 4 - 6 \times \frac{11}{6}$
 $= 4 - 11$
 $= -7$