

1

正負の数

1 符号のついた数

p.10

問 1 (1) -5.5°C (2) $+8^{\circ}\text{C}$

問 2 (例)

負の小数… -2.7

負の分数… $-\frac{3}{5}$

p.11

たしかめ 1 最深部が海面より 170m 低いこと。

問 3 気温が現在より 3°C 低くなること。

p.12

例 3

…? $+8\text{m}$ …A から東へ 8m 移動すること。

-2m …A から西へ 2m 移動すること。

問 4 現在より 2 時間前のこと。

例 4 \rightarrow -4 人

問 5 -8 日

2 数の大小

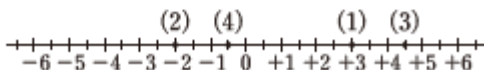
p.13

たしかめ 1 A… $+4$

B… $+2.5$

C… -5.5

たしかめ 2



p.14

たしかめ 3 (1) $-3 < -2$ または $-2 > -3$

(2) $-2 < 0 < +1$
または $+1 > 0 > -2$

問 1 (1) $-3 < +5$ または $+5 > -3$

(2) $-4 < -1 < +3$
または $+3 > -1 > -4$

問 2 $-3 < -2 < +4$

または $+4 > -2 > -3$

p.15

たしかめ 4 (1) 8 (2) 10

(3) 2.5 (4) $\frac{1}{3}$

問 3 $+7, -7$

問 4 (1) $-49 < -36$
(2) $-0.8 < -0.12$
(3) $-\frac{7}{6} < -1$

もっと練習!

(1) $-0.1 < -0.01$

(2) $-\frac{1}{2} < -\frac{1}{3}$

ここまでが前回の課題 ○付け・やり直しをしましょう。

ここから、今回の課題の答えです。

2

加法と減法

1 加法

p.18

例 1

…? 和の符号は 2 つの数の共通の符号になり、絶対値は 2 つの数の絶対値の和になっている。

たしかめ 1

(1) $(+2) + (+7)$ (2) $(+4) + (+3)$
 $= +(2+7)$ $= +(4+3)$
 $= +9$ $= +7$

(3) $(-2) + (-4)$ (4) $(-5) + (-8)$
 $= -(2+4)$ $= -(5+8)$
 $= -6$ $= -13$

p.19

例 3

…? 和の符号は絶対値の大きいほうの数の符号になり、絶対値は、絶対値の大きいほうから小さいほうをひいた差になっている。

たしかめ 2

(1) $(+4) + (-3)$ (2) $(+7) + (-9)$
 $= +(4-3)$ $= -(9-7)$
 $= +1$ $= -2$

(3) $(-6) + (+6)$ (4) $(-12) + (+18)$
 $= 0$ $= +(18-12)$
 $= +6$

問 1

$$\begin{aligned} (1) \quad & (-3) + (+8) \\ & = +(8-3) \\ & = +5 \end{aligned}$$

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

$$\begin{aligned} (3) \quad & 0 + (-2) \\ & = -2 \end{aligned}$$

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

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

$$\begin{aligned} (6) \quad & (-40) + (+12) \\ & = -(40-12) \\ & = -28 \end{aligned}$$

$$\begin{aligned} (7) \quad & (-19) + (-13) \\ & = -(19+13) \\ & = -32 \end{aligned}$$

$$\begin{aligned} (8) \quad & (+24) + (-36) \\ & = -(36-24) \\ & = -12 \end{aligned}$$

もっと練習!

$$\begin{aligned} (1) \quad & (+37) + (-37) \\ & = 0 \end{aligned}$$

$$\begin{aligned} (2) \quad & (-105) + (+76) \\ & = -(105-76) \\ & = -29 \end{aligned}$$

問 2

$$\begin{aligned} (1) \quad & (+4.8) + (-5.2) \\ & = -(5.2-4.8) \\ & = -0.4 \end{aligned}$$

$$\begin{aligned} (2) \quad & (-4) + (+2.6) \\ & = -(4-2.6) \\ & = -1.4 \end{aligned}$$

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

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

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

$$\begin{aligned} (6) \quad & \left(+\frac{1}{2}\right) + \left(-\frac{3}{7}\right) \\ & = \left(+\frac{7}{14}\right) + \left(-\frac{6}{14}\right) \\ & = +\left(\frac{7}{14} - \frac{6}{14}\right) \\ & = +\frac{1}{14} \end{aligned}$$

もっと練習!

$$\begin{aligned} (3) \quad & (-1.3) + (-3.7) \\ & = -(1.3+3.7) \\ & = -5 \end{aligned}$$

$$\begin{aligned} (4) \quad & \left(-\frac{1}{4}\right) + (+0.75) \\ & = \left(-\frac{1}{4}\right) + \left(+\frac{3}{4}\right) \\ & = +\left(\frac{3}{4} - \frac{1}{4}\right) \\ & = +\frac{2}{4} \\ & = +\frac{1}{2} (+0.5) \end{aligned}$$

例 5

- …? (1) 正の数どうし、負の数どうしを先に計算している。
- (2) $(+6) + (-6) = 0$ になることを使って、計算をしている。

問 3

$$\begin{aligned} (1) \quad & (+5) + (-9) + (-7) + (+6) \\ & = (+5) + (+6) + (-9) + (-7) \\ & = \{(+5) + (+6)\} + \{(-9) + (-7)\} \\ & = (+11) + (-16) \\ & = -5 \end{aligned}$$

$$\begin{aligned} (2) \quad & (-8) + (+5) + (-3) + (+8) + (-1) \\ & = (-8) + (+8) + (+5) + (-3) + (-1) \\ & = \{(-8) + (+8)\} + (+5) \\ & \quad + \{(-3) + (-1)\} \\ & = 0 + (+5) + (-4) \\ & = +1 \end{aligned}$$

もっと練習!

$$\begin{aligned} & (-54) + (+16) + (-46) + (+24) \\ & = (+16) + (+24) + (-54) + (-46) \\ & = \{(+16) + (+24)\} + \{(-54) + (-46)\} \\ & = (+40) + (-100) \\ & = -60 \end{aligned}$$

2 減法

問 1 $\square + (+5) = +2$ の式は、 $\text{図}\text{㊸}$ のように表せる。この \square にあてはまる数を求める計算は

$$(+2) - (+5) = \square$$

また、 $\text{図}\text{㊹}$ から

$$\square = (+2) + (-5)$$

したがって

$$(+2) - (+5) = (+2) + (-5) \text{ となる。}$$

$$\begin{aligned} \text{問 2} \quad (1) \quad & (+5) - (+7) & (2) \quad (+3) - (-5) \\ & = (+5) + (-7) & = (+3) + (+5) \end{aligned}$$

たしかめ

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

$$\begin{aligned} (3) \quad & (-2) - (+9) & (4) \quad (+8) - (-4) \\ & = (-2) + (-9) & = (+8) + (+4) \\ & = -11 & = +12 \end{aligned}$$

問 3

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

$$\begin{aligned} (2) \quad & (+7) - (-9) \\ & = (+7) + (+9) \\ & = +16 \end{aligned}$$

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

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

$$\begin{aligned} (5) \quad & (-5) - (-5) \\ & = (-5) + (+5) \\ & = 0 \end{aligned}$$

$$\begin{aligned} (6) \quad & (-7) - (+7) \\ & = (-7) + (-7) \\ & = -14 \end{aligned}$$

$$\begin{aligned} (7) \quad & 0 - (-8) \\ & = 0 + (+8) \\ & = +8 \end{aligned}$$

$$\begin{aligned} (8) \quad & (-14) - 0 \\ & = -14 \end{aligned}$$

$$\begin{aligned} (9) \quad & (-4) - (-9) \\ & = (-4) + (+9) \\ & = +5 \end{aligned}$$

$$\begin{aligned} (10) \quad & (+6) - (+9) \\ & = (+6) + (-9) \\ & = -3 \end{aligned}$$

問 4

$$\begin{aligned} (1) \quad & (-0.4) - (+0.2) \\ & = (-0.4) + (-0.2) \\ & = -0.6 \end{aligned}$$

$$\begin{aligned} (2) \quad & (-3) - (-1.2) \\ & = (-3) + (+1.2) \\ & = -1.8 \end{aligned}$$

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

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

$$\begin{aligned} (5) \quad & \left(+\frac{1}{4}\right) - \left(+\frac{6}{7}\right) \\ & = \left(+\frac{1}{4}\right) + \left(-\frac{6}{7}\right) \\ & = \left(+\frac{7}{28}\right) + \left(-\frac{24}{28}\right) \\ & = -\frac{17}{28} \end{aligned}$$

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

もっと練習!

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

$$\begin{aligned} (2) \quad & (+0.25) - \left(-\frac{1}{3}\right) \\ & = \left(+\frac{1}{4}\right) + \left(+\frac{1}{3}\right) \\ & = \left(+\frac{3}{12}\right) + \left(+\frac{4}{12}\right) \\ & = +\frac{7}{12} \end{aligned}$$

3 加法と減法の混じった計算

p.25 たしかめ

①

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

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

p.26

たしかめ

②

(1) $-6, +2, -7$

(2) $+2, -3, -6$

問 1

$$\begin{aligned} (1) \quad & (-3) + (+8) - (+4) & (2) \quad & (-5) - (-2) + 3 \\ & = (-3) + (+8) + (-4) & & = (-5) + (+2) + (+3) \\ & = -3 + 8 - 4 & & = -5 + 2 + 3 \end{aligned}$$

$$\begin{aligned} (3) \quad & -4 + (-6) - 7 - (-9) \\ & = (-4) + (-6) - (+7) - (-9) \\ & = (-4) + (-6) + (-7) + (+9) \\ & = -4 - 6 - 7 + 9 \end{aligned}$$

たしかめ

③

(1) $6 - 8 + 7 - 3$

$= 6 + 7 - 8 - 3$

$= 13 - 11$

$= 2$

(2) $-4 + 12 - 9$

$= 12 - 4 - 9$

$= 12 - 13$

$= -1$

p.27

たしかめ

④

(1) $-3 - (-5) + 2 + (-1)$

$= -3 + 5 + 2 - 1$

$= 5 + 2 - 3 - 1$

$= 7 - 4$

$= 3$

(2) $7 + (-6) - 4 - (-9)$

$= 7 - 6 - 4 + 9$

$= 7 + 9 - 6 - 4$

$= 16 - 10$

$= 6$

問 2

(1) $-5 + 3 - 2 + 6$

$= 3 + 6 - 5 - 2$

$= 9 - 7$

$= 2$

(2) $2 - 8 + 7 - 2 + 4$

$= 2 + 7 + 4 - 8 - 2$

$= 13 - 10$

$= 3$

(3) $3 - 8 - (-7)$

$= 3 - 8 + 7$

$= 3 + 7 - 8$

$= 10 - 8$

$= 2$

(4) $-17 - (-26) + 0 - 19$

$= -17 + 26 + 0 - 19$

$= 26 + 0 - 17 - 19$

$= 26 - 36$

$= -10$

$$\begin{aligned}
 (5) \quad & 12 - 18 - (-21) - 11 \\
 & = 12 - 18 + 21 - 11 \\
 & = 12 + 21 - 18 - 11 \\
 & = 33 - 29 \\
 & = 4
 \end{aligned}$$

$$\begin{aligned}
 (6) \quad & 15 - (-32) + (-19) - 36 \\
 & = 15 + 32 - 19 - 36 \\
 & = 47 - 55 \\
 & = -8
 \end{aligned}$$

問 3

$$\begin{aligned}
 (1) \quad & 1.3 - 2.4 - 0.5 & (2) \quad & 5.3 + (-6.1) - (-3.4) \\
 & = 1.3 - 2.9 & & = 5.3 - 6.1 + 3.4 \\
 & = -1.6 & & = 5.3 + 3.4 - 6.1 \\
 & & & = 8.7 - 6.1 \\
 & & & = 2.6
 \end{aligned}$$

$$\begin{aligned}
 (3) \quad & 1 - \frac{1}{2} + \frac{1}{4} - \frac{1}{3} \\
 & = 1 + \frac{1}{4} - \frac{1}{2} - \frac{1}{3} \\
 & = \frac{12}{12} + \frac{3}{12} - \frac{6}{12} - \frac{4}{12} \\
 & = \frac{15}{12} - \frac{10}{12} \\
 & = \frac{5}{12}
 \end{aligned}$$

$$\begin{aligned}
 (4) \quad & -\frac{5}{6} - \left(+\frac{3}{4}\right) + \frac{1}{2} \\
 & = -\frac{5}{6} - \frac{3}{4} + \frac{1}{2} \\
 & = \frac{1}{2} - \frac{5}{6} - \frac{3}{4} \\
 & = \frac{6}{12} - \frac{10}{12} - \frac{9}{12} \\
 & = \frac{6}{12} - \frac{19}{12} \\
 & = -\frac{13}{12}
 \end{aligned}$$

もっと練習!

$$\begin{aligned}
 & -2 + \frac{2}{15} - (-0.2) \\
 & = -2 + \frac{2}{15} + \frac{2}{10} \\
 & = \frac{2}{15} + \frac{2}{10} - 2 \\
 & = \frac{4}{30} + \frac{6}{30} - \frac{60}{30} \\
 & = \frac{10}{30} - \frac{60}{30} \\
 & = -\frac{50}{30} \\
 & = -\frac{5}{3}
 \end{aligned}$$

やってみよう

$$\begin{aligned}
 \textcircled{ア} \quad & +5 - 7 + 2 \\
 & = 5 + 2 - 7 \\
 & = 7 - 7 \\
 & = 0
 \end{aligned}$$

$$\begin{aligned}
 \textcircled{イ} \quad & -3 + 6 + 3 - 5 \\
 & = 3 - 3 + 6 - 5 \\
 & = 6 - 5 \\
 & = 1
 \end{aligned}$$