

# 『数が苦』を『数楽』に その3 4

1年 組 番 氏名

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文字式の表し方1 [乗法、除法の省略 (基本)]

次の式から $\times$ 、 $\div$ を省略して簡単に表せ。

①  $5 \times a$

$$= 5a$$

②  $x \times (-4)$

$$= -4x$$

③  $c \times 1$

$$= c$$

④  $(-1) \times x$

$$= -x$$

⑤  $c \times b \times a$

$$= abc$$

⑥  $y \times 8 \times x$

$$= 8xy$$

⑦  $a \times a \times a$

$$= a^3$$

⑧  $y \times x \times 9 \times x \times y \times x$

$$= 9x^3y^2$$

⑨  $a \div 5$

$$= \frac{a}{5}$$

⑩  $-x \div 4$

$$= -\frac{x}{4}$$

⑪  $b \div (-4)$

$$= -\frac{b}{4}$$

⑫  $(x + y) \div 7$

$$= \frac{x + y}{7}$$

⑬  $7 \div x$

$$= \frac{7}{x}$$

⑭  $-5 \div a$

$$= -\frac{5}{a}$$

# 『数が苦』を『数楽』に その35

1年 組 番 氏名

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文字式の表し方2 [乗法、除法の省略 (発展)]

次の式から÷を省略して簡単に表せ。

①  $2 \times a + 3 \times b$

$$= 2a + 3b$$

②  $3 \times x + y \div 2$

$$= 3x + \frac{y}{2}$$

③  $a \div (-4) - b \div 5$

$$= -\frac{a}{4} - \frac{b}{5}$$

④  $2 \times a \times b + c$

$$= 2ab + c$$

⑤  $a - b \times 5 \times b$

$$= a - 5b^2$$

⑥  $x \times 5 \times x - x \times 3 \times y$

$$= 5x^2 - 3xy$$

⑦  $x \times y \div 2$

$$= \frac{xy}{2}$$

⑧  $2 \times a \div 3$

$$= \frac{2a}{3}$$

⑨  $a \div b \times c$

$$= \frac{ac}{b}$$

⑩  $a \div b \div c$

$$= \frac{a}{bc}$$

⑪  $a \times a \div b \times c$

$$= \frac{a^2c}{b}$$

⑫  $a \div b \times c$

$$= \frac{ac}{b}$$

# 『数が苦』を『数楽』に その36

文字式の乗法1 [項が1つの1次式と数との積]

次の計算をなさい。

$$\begin{aligned} \textcircled{1} 2x \times 3 \\ = 6x \end{aligned}$$

$$\begin{aligned} \textcircled{2} 4 \times 3x \\ = 12x \end{aligned}$$

$$\begin{aligned} \textcircled{3} -3a \times 8 \\ = -24a \end{aligned}$$

$$\begin{aligned} \textcircled{4} 41 \times (-10a) \\ = -410a \end{aligned}$$

$$\begin{aligned} \textcircled{5} 5y \times (-4) \\ = -20y \end{aligned}$$

$$\begin{aligned} \textcircled{6} (-8) \times 7y \\ = -56y \end{aligned}$$

$$\begin{aligned} \textcircled{7} (-8b) \times (-6) \\ = 48b \end{aligned}$$

$$\begin{aligned} \textcircled{8} (-4) \times (-9b) \\ = 36b \end{aligned}$$

$$\begin{aligned} \textcircled{9} 0.1x \times 2.7 \\ = 0.27x \end{aligned}$$

$$\begin{aligned} \textcircled{10} 1.5 \times (-1.4x) \\ = -2.1x \end{aligned}$$

$$\begin{aligned} \textcircled{11} -5a \times \frac{2}{5} \\ = -2a \end{aligned}$$

$$\begin{aligned} \textcircled{12} \frac{1}{3}a \times (-3) \\ = -a \end{aligned}$$

$$\begin{aligned} \textcircled{13} \left(-\frac{8}{3}\right) \times \frac{5}{6}y \\ = -\frac{8 \times 5}{3 \times 6}y \\ = -\frac{8 \times 5}{3 \times 6}y \\ = -\frac{4 \times 5}{3 \times 3}y \\ = -\frac{20}{9}y \end{aligned}$$

$$\begin{aligned} \textcircled{14} \left(-\frac{8}{21}\right) \times \left(-\frac{7}{4}y\right) \\ = \frac{8 \times 7}{21 \times 4}y \\ = \frac{8 \times 7}{21 \times 4}y \\ = \frac{2 \times 1}{3 \times 1}y \\ = \frac{2}{3}y \end{aligned}$$

$$\begin{aligned} \textcircled{15} -3b \times 0 \\ = 0 \end{aligned}$$

$$\begin{aligned} \textcircled{16} 0 \times (-7b) \\ = 0 \end{aligned}$$

# 『数が苦』を『数楽』に その37

文字式の乗法2 [項が2つの1次式と数との積]

次の計算をなさい。

$$\begin{aligned} \textcircled{1} 2 \times (3x + 4) \\ = 6x + 8 \end{aligned}$$

$$\begin{aligned} \textcircled{2} 2(4x - 5) \\ = 8x - 10 \end{aligned}$$

$$\begin{aligned} \textcircled{3} (-8a + 4) \times 3 \\ = -24a + 12 \end{aligned}$$

$$\begin{aligned} \textcircled{4} (-3a - 2) \times 4 \\ = -12a - 8 \end{aligned}$$

$$\begin{aligned} \textcircled{5} (-3) \times (3x + 4) \\ = -9x - 12 \end{aligned}$$

$$\begin{aligned} \textcircled{6} -4(4x - 5) \\ = -16x + 20 \end{aligned}$$

$$\begin{aligned} \textcircled{7} (-8a + 4) \times (-2) \\ = 16a - 8 \end{aligned}$$

$$\begin{aligned} \textcircled{8} (-3a - 2) \times (-3) \\ = 9a + 6 \end{aligned}$$

$$\begin{aligned} \textcircled{9} -(x - 4) \\ = -x + 4 \end{aligned}$$

$$\begin{aligned} \textcircled{10} -(-3x + 1) \\ = 3x - 1 \end{aligned}$$

$$\begin{aligned} \textcircled{11} -6 \left( \frac{3}{2}a - 5 \right) \\ = -\frac{6 \times 3}{2}a + 6 \times 5 \\ = -9a + 30 \end{aligned}$$

$$\begin{aligned} \textcircled{12} \left( \frac{3}{4}a + \frac{2}{3} \right) \times (-12) \\ = -\frac{3 \times 12}{4}a - \frac{2 \times 12}{3} \\ = -9a - 8 \end{aligned}$$

$$\begin{aligned} \textcircled{13} \frac{1}{3}(9a + 6) \\ = \frac{9a}{3} + \frac{6}{3} \\ = 3a + 2 \end{aligned}$$

$$\begin{aligned} \textcircled{14} (-12a + 9) \times \left( -\frac{2}{3} \right) \\ = \frac{12 \times 2}{3}a - \frac{9 \times 2}{3} \\ = 8a - 6 \end{aligned}$$

$$\begin{aligned} \textcircled{15} \frac{3}{2}(9a + 6) \\ = \frac{3 \times 9a}{2} + \frac{3 \times 6}{2} \\ = \frac{27}{2}a + 9 \\ = \frac{27}{2}a + 9 \end{aligned}$$

$$\begin{aligned} \textcircled{16} \left( \frac{3}{4}a + \frac{2}{3} \right) \times \frac{12}{5} \\ = \frac{3 \times 12}{4 \times 5}a + \frac{2 \times 12}{3 \times 5} \\ = \frac{3 \times 3}{1 \times 5}a + \frac{2 \times 3}{1 \times 5} \\ = \frac{9}{5}a + \frac{6}{5} \end{aligned}$$

# 『数が苦』を『数楽』に その38

文字式の除法1 [項が1つの1次式と数との商]

次の計算をなさい。

$$\begin{aligned} \textcircled{1} 6x \div 3 \\ = 2x \end{aligned}$$

$$\begin{aligned} \textcircled{2} -12x \div 4 \\ = -3x \end{aligned}$$

$$\begin{aligned} \textcircled{3} 24a \div (-8) \\ = -3a \end{aligned}$$

$$\begin{aligned} \textcircled{4} -15a \div (-5) \\ = 3a \end{aligned}$$

$$\begin{aligned} \textcircled{5} 5y \div (-4) \\ = -\frac{5}{4}y \end{aligned}$$

$$\begin{aligned} \textcircled{6} -8y \div 6 \\ = -\frac{8}{6}y \\ = -\frac{4}{3}y \end{aligned}$$

$$\begin{aligned} \textcircled{7} (-12b) \div (-18) \\ = \frac{12}{18}b \\ = \frac{2}{3}b \end{aligned}$$

$$\begin{aligned} \textcircled{8} -4b \div (-8) \\ = \frac{4}{8}b \\ = \frac{1}{2}b \end{aligned}$$

$$\begin{aligned} \textcircled{9} -6a \div \frac{2}{3} \\ = -6a \times \frac{3}{2} \\ = -\frac{6 \times 3}{2}a \\ = -9a \end{aligned}$$

$$\begin{aligned} \textcircled{10} (-3a) \div \left(-\frac{1}{3}\right) \\ = (-3a) \times (-3) \\ = 9a \end{aligned}$$

$$\begin{aligned} \textcircled{11} \left(-\frac{8}{3}y\right) \div \frac{6}{5} \\ = \left(-\frac{8}{3}y\right) \times \frac{5}{6} \\ = -\frac{8 \times 5}{3 \times 6}y \\ = -\frac{4 \times 5}{3 \times 3}y \\ = -\frac{20}{9}y \end{aligned}$$

$$\begin{aligned} \textcircled{12} \left(-\frac{8}{21}y\right) \div \left(-\frac{4}{7}\right) \\ = \left(-\frac{8}{21}y\right) \times \left(-\frac{7}{4}\right) \\ = \frac{8 \times 7}{21 \times 4}y \\ = \frac{2 \times 1}{3 \times 1}y \\ = \frac{2}{3}y \end{aligned}$$

# 『数が苦』を『数楽』に その39

文字式の除法2 [項が2つの1次式と数との商]

次の計算をなさい。

$$\begin{aligned} \textcircled{1} (6x + 4) \div 2 \\ = 3x + 2 \end{aligned}$$

$$\begin{aligned} \textcircled{3} (6a - 4) \div 3 \\ = 2a - \frac{4}{3} \end{aligned}$$

$$\begin{aligned} \textcircled{5} (3x + 4) \div (-1) \\ = -3x - 4 \end{aligned}$$

$$\begin{aligned} \textcircled{7} (-8a + 4) \div \left(-\frac{2}{3}\right) \\ = (-8a + 4) \times \left(-\frac{3}{2}\right) \\ = \frac{8 \times 3}{2} a - \frac{4 \times 3}{2} \\ = 12a - 6 \end{aligned}$$

$$\begin{aligned} \textcircled{9} \left(\frac{3}{2}a - 5\right) \div (-3) \\ = \left(\frac{3}{2}a - 5\right) \times \left(-\frac{1}{3}\right) \\ = -\frac{3 \times 1}{2 \times 3} a + \frac{5 \times 1}{3} \\ = -\frac{1}{2} a + \frac{5}{3} \end{aligned}$$

$$\begin{aligned} \textcircled{11} \left(\frac{3}{4}a + \frac{2}{3}\right) \div \frac{1}{12} \\ = \left(\frac{3}{4}a + \frac{2}{3}\right) \times 12 \\ = \frac{3 \times 12}{4} a + \frac{2 \times 12}{3} \\ = 9a + 8 \end{aligned}$$

$$\begin{aligned} \textcircled{2} (12x - 6) \div (-3) \\ = -4x + 2 \end{aligned}$$

$$\begin{aligned} \textcircled{4} (3a + 2) \div 5 \\ = \frac{3}{5} a + \frac{2}{5} \end{aligned}$$

$$\begin{aligned} \textcircled{6} (4x - 5) \div \left(-\frac{1}{3}\right) \\ = (4x - 5) \times (-3) \\ = -12x + 15 \end{aligned}$$

$$\begin{aligned} \textcircled{8} (-3a - 2) \div \left(-\frac{3}{2}\right) \\ = (-3a - 2) \times \left(-\frac{2}{3}\right) \\ = \frac{3 \times 2}{3} a - \frac{2 \times 2}{3} \\ = 2a - \frac{4}{3} \end{aligned}$$

$$\begin{aligned} \textcircled{10} \left(\frac{3}{4}a + \frac{2}{3}\right) \div (-12) \\ = \left(\frac{3}{4}a + \frac{2}{3}\right) \times \left(-\frac{1}{12}\right) \\ = -\frac{3 \times 1}{4 \times 12} a - \frac{2 \times 1}{3 \times 12} \\ = -\frac{1 \times 1}{4 \times 4} a - \frac{1 \times 1}{3 \times 6} \\ = -\frac{1}{16} a - \frac{1}{18} \end{aligned}$$

$$\begin{aligned} \textcircled{12} \left(\frac{3}{4}a - \frac{2}{3}\right) \div \frac{5}{6} \\ = \left(\frac{3}{4}a - \frac{2}{3}\right) \times \frac{6}{5} \\ = \frac{3 \times 6}{4 \times 5} a - \frac{2 \times 6}{3 \times 5} \\ = \frac{3 \times 3}{2 \times 5} a - \frac{2 \times 2}{1 \times 5} \\ = \frac{9}{10} a - \frac{4}{5} \end{aligned}$$

# 『数が苦』を『数楽』に その40

文字式の乗法・除法[分数の1次式と数との積・商]

次の計算をなさい。

$$\begin{aligned}\textcircled{1} \quad & \frac{2x+3}{5} \times 10 \\ &= \frac{2x+3}{1} \times 2 \\ &= (2x+3) \times 2 \\ &= 4x+6\end{aligned}$$

$$\begin{aligned}\textcircled{2} \quad & 6 \times \frac{x-3}{2} \\ &= 3 \times \frac{x-3}{1} \\ &= 3(x-3) \\ &= 3x-9\end{aligned}$$

$$\begin{aligned}\textcircled{3} \quad & \frac{-2x+4}{3} \times (-9) \\ &= \frac{-2x+4}{1} \times (-3) \\ &= (-2x+4) \times (-3) \\ &= 6x-12\end{aligned}$$

$$\begin{aligned}\textcircled{4} \quad & (-8) \times \frac{2x-3}{2} \\ &= (-4) \times \frac{2x-3}{1} \\ &= (-4) \times (2x-3) \\ &= -8x+12\end{aligned}$$

$$\begin{aligned}\textcircled{5} \quad & \frac{-x+1}{3} \times (-3) \\ &= \frac{-x+1}{1} \times (-1) \\ &= (-x+1) \times (-1)\end{aligned}$$

$$\begin{aligned}\textcircled{6} \quad & \frac{2x-3}{2} \div \frac{1}{2} \\ &= \frac{2x-3}{2} \times \frac{2}{1} \\ &= 2x-3\end{aligned}$$

$$\begin{aligned}\textcircled{7} \quad & \frac{-x+1}{4} \div \left(-\frac{1}{4}\right) \\ &= \frac{-x+1}{4} \times \left(-\frac{4}{1}\right) \\ &= \frac{-x+1}{1} \times \left(-\frac{1}{1}\right) \\ &= (-x+1) \times (-1)\end{aligned}$$

$$\begin{aligned}\textcircled{8} \quad & \frac{7x-5}{2} \div \frac{3}{2} \\ &= \frac{7x-5}{2} \times \frac{2}{3} \\ &= \frac{7x-5}{1} \times \frac{1}{3} \\ &= \frac{7x-5}{3}\end{aligned}$$

$$\begin{aligned}\textcircled{9} \quad & \frac{3x+9}{4} \div 3 \\ &= \frac{3x+9}{4} \times \frac{1}{3} \\ &= \frac{3x+9}{4 \times 3} \\ &= \frac{x+3}{4}\end{aligned}$$

$$\begin{aligned}\textcircled{10} \quad & \frac{9x-3}{2} \div \frac{3}{2} \\ &= \frac{9x-3}{2} \times \frac{2}{3} \\ &= \frac{9x-3}{1} \times \frac{1}{3} \\ &= 3x-1\end{aligned}$$

# 『数が苦』を『数楽』に その4 1

文字式の加法 1 [式を簡単にする]

次の計算をなさい。

$$\begin{aligned} \textcircled{1} \quad & 2x + 3x \\ & = 5x \end{aligned}$$

$$\begin{aligned} \textcircled{2} \quad & 3x - 7x \\ & = -4x \end{aligned}$$

$$\begin{aligned} \textcircled{3} \quad & 8a - 7a \\ & = a \end{aligned}$$

$$\begin{aligned} \textcircled{4} \quad & 4a - 5a \\ & = -a \end{aligned}$$

$$\begin{aligned} \textcircled{5} \quad & x + 4x \\ & = 5x \end{aligned}$$

$$\begin{aligned} \textcircled{6} \quad & -3x - x \\ & = -4x \end{aligned}$$

$$\begin{aligned} \textcircled{7} \quad & 3a + 7a - 2a \\ & = 8a \end{aligned}$$

$$\begin{aligned} \textcircled{8} \quad & 4a - 7a + 2a - 3a \\ & = -4a \end{aligned}$$

$$\begin{aligned} \textcircled{9} \quad & -3x + 3x \\ & = 0 \end{aligned}$$

$$\begin{aligned} \textcircled{10} \quad & 1.5x - 1.4x \\ & = 0.1x \end{aligned}$$

$$\begin{aligned} \textcircled{11} \quad & 4x + 3x - 5 \\ & = 7x - 5 \end{aligned}$$

$$\begin{aligned} \textcircled{12} \quad & 3x - 7 + 4 \\ & = 3x - 3 \end{aligned}$$

$$\begin{aligned} \textcircled{13} \quad & 8a + 5 - 7a - 4 \\ & = a + 1 \end{aligned}$$

$$\begin{aligned} \textcircled{14} \quad & 3a - 4 - 5a + 8 \\ & = -2a + 4 \end{aligned}$$

$$\begin{aligned} \textcircled{15} \quad & x + 8 - 4 + 4x \\ & = 5x + 4 \end{aligned}$$

$$\begin{aligned} \textcircled{16} \quad & -9 - 3x + 5 - x \\ & = -4x - 4 \end{aligned}$$

$$\begin{aligned} \textcircled{17} \quad & 3a + 1 + 7a - 2 - 2a \\ & = 8a - 1 \end{aligned}$$

$$\begin{aligned} \textcircled{18} \quad & 4a - 7a + 2a - 3 \\ & = -a - 3 \end{aligned}$$

$$\begin{aligned} \textcircled{19} \quad & -3x + 15 + 3x - 11 \\ & = 4 \end{aligned}$$

$$\begin{aligned} \textcircled{20} \quad & 5x - 16 - 4x + 16 \\ & = x \end{aligned}$$



# 『数が苦』を『数楽』に その42

文字式の加法2 [1次式どうしの加法]

次の2式をたしなさい。

①  $2x$  と  $3x$

$$\begin{aligned} & 2x + 3x \\ &= 5x \end{aligned}$$

②  $-3x$  と  $3x$

$$\begin{aligned} & -3x + 3x \\ &= 0 \end{aligned}$$

③  $2x$  と  $4x - 5$

$$\begin{aligned} & 2x + (4x - 5) \\ &= 2x + 4x - 5 \\ &= 6x - 5 \end{aligned}$$

④  $-8a + 4$  と  $3a$

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

⑤  $3x + 4$  と  $2x + 3$

$$\begin{aligned} & (3x + 4) + (2x + 3) \\ &= 3x + 4 + 2x + 3 \\ &= 5x + 7 \end{aligned}$$

⑥  $4x - 5$  と  $x - 6$

$$\begin{aligned} & (4x - 5) + (x - 6) \\ &= 4x - 5 + x - 6 \\ &= 5x - 11 \end{aligned}$$

⑦  $-8a + 4$  と  $2a - 5$

$$\begin{aligned} & (-8a + 4) + (2a - 5) \\ &= -8a + 4 + 2a - 5 \\ &= -6a - 1 \end{aligned}$$

⑧  $-3a - 2$  と  $-3a - 5$

$$\begin{aligned} & (-3a - 2) + (-3a - 5) \\ &= -3a - 2 - 3a - 5 \\ &= -6a - 7 \end{aligned}$$

⑨  $3x - 9$  と  $-4 - x$

$$\begin{aligned} & (3x - 9) + (-4 - x) \\ &= 3x - 9 - 4 - x \\ &= 2x - 13 \end{aligned}$$

⑩  $-3x + 1$  と  $4 + 3x$

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

⑪  $-2x - 8$  と  $8 + x$

$$\begin{aligned} & (-2x - 8) + (8 + x) \\ &= -2x - 8 + 8 + x \\ &= -x \end{aligned}$$

⑫  $-3x + 1$  と  $1 + 3x$

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

# 『数が苦』を『数楽』に その43

文字式の減法[1次式どうしの減法]

次の2式で左の式から右の式をひきなさい。

①  $2x$  と  $3x$

$$\begin{aligned} & 2x - 3x \\ = & -x \end{aligned}$$

②  $-3x$  と  $-3x$

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

③  $2x - 3$  と  $4x$

$$\begin{aligned} & (2x - 3) - 4x \\ = & 2x - 3 - 4x \\ = & -2x - 3 \end{aligned}$$

④  $-8a$  と  $3a + 4$

$$\begin{aligned} & -8a - (3a + 4) \\ = & -8a - 3a - 4 \\ = & -11a - 4 \end{aligned}$$

⑤  $3x + 4$  と  $2x + 3$

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

⑥  $4x - 5$  と  $x - 6$

$$\begin{aligned} & (4x - 5) - (x - 6) \\ = & 4x - 5 - x + 6 \\ = & 3x + 1 \end{aligned}$$

⑦  $-8a + 4$  と  $2a - 5$

$$\begin{aligned} & (-8a + 4) - (2a - 5) \\ = & -8a + 4 - 2a + 5 \\ = & -10a + 9 \end{aligned}$$

⑧  $-3a - 2$  と  $-3a - 5$

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

⑨  $3x - 9$  と  $-4 - x$

$$\begin{aligned} & (3x - 9) - (-4 - x) \\ = & 3x - 9 + 4 + x \\ = & 4x - 5 \end{aligned}$$

⑩  $-3x + 1$  と  $4 + 3x$

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

⑪  $-2x - 8$  と  $8 + x$

$$\begin{aligned} & (-2x - 8) - (8 + x) \\ = & -2x - 8 - 8 - x \\ = & -3x - 16 \end{aligned}$$

⑫  $1 + 3x$  と  $-3x + 1$

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

# 『数が苦』を『数楽』に その44

## 文字式の四則1 [かっこのついた式]

次の計算をなさい。

$$\begin{aligned}\textcircled{1} & 4(3x+2)+5x \\ & = 12x+8+5x \\ & = 17x+8\end{aligned}$$

$$\begin{aligned}\textcircled{2} & -3x+2(4x-3) \\ & = -3x+8x-6 \\ & = 5x-6\end{aligned}$$

$$\begin{aligned}\textcircled{3} & (3x+4)+(2x+3) \\ & = 3x+4+2x+3 \\ & = 5x+7\end{aligned}$$

$$\begin{aligned}\textcircled{4} & (4x-5)-(x-6) \\ & = 4x-5-x+6 \\ & = 3x+1\end{aligned}$$

$$\begin{aligned}\textcircled{5} & 2(3x+4)+5(2x+3) \\ & = 6x+8+10x+15 \\ & = 16x+23\end{aligned}$$

$$\begin{aligned}\textcircled{6} & 3(4x-5)-2(3x-6) \\ & = 12x-15-6x+12 \\ & = 6x-3\end{aligned}$$

$$\begin{aligned}\textcircled{7} & 3(-3x+4)-5(-2x+3) \\ & = -9x+12+10x-15 \\ & = x-3\end{aligned}$$

$$\begin{aligned}\textcircled{8} & -3(4x-5)+2(-3x-6) \\ & = -12x+15-6x-12 \\ & = -18x+3\end{aligned}$$

$$\begin{aligned}\textcircled{9} & \frac{1}{3}(3x-6)+\frac{1}{2}(-4x+6) \\ & = \frac{3x}{3}-\frac{6}{3}-\frac{4x}{2}+\frac{6}{2} \\ & = x-2-2x+3 \\ & = -x+1\end{aligned}$$

$$\begin{aligned}\textcircled{10} & \frac{1}{4}(8x-4)-\frac{1}{3}(-6x-9) \\ & = \frac{8x}{4}-\frac{4}{4}+\frac{6x}{3}+\frac{9}{3} \\ & = 2x-1+2x+3 \\ & = 4x+2\end{aligned}$$

$$\begin{aligned}\textcircled{11} & \frac{2}{3}(3x-6)+\frac{3}{2}(-4x+6) \\ & = \frac{2 \times 3x}{3}-\frac{2 \times 6}{3}-\frac{3 \times 4x}{2}+\frac{3 \times 6}{2} \\ & = 2x-4-6x+9 \\ & = -4x+5\end{aligned}$$

$$\begin{aligned}\textcircled{12} & \frac{1}{4}(8x-2)-\frac{1}{6}(-6x-3) \\ & = \frac{8x}{4}-\frac{2}{4}+\frac{6x}{6}+\frac{3}{6} \\ & = 2x-\frac{1}{2}+x+\frac{1}{2} \\ & = 3x\end{aligned}$$

# 『数が苦』を『数楽』に その45

文字式の四則2 [難しい分数式]

次の計算をなさい。

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

$$\begin{aligned} \textcircled{3} \quad & \frac{3x-7}{2} + \frac{2x+3}{4} \\ &= \frac{2(3x-7)}{4} + \frac{(2x+3)}{4} \\ &= \frac{2(3x-7) + (2x+3)}{4} \\ &= \frac{6x-14+2x+3}{4} \\ &= \frac{8x-11}{2} \end{aligned}$$

$$\begin{aligned} \textcircled{5} \quad & \frac{3x-7}{2} - \frac{2x+3}{4} \\ &= \frac{2(3x-7)}{4} - \frac{(2x+3)}{4} \\ &= \frac{2(3x-7) - (2x+3)}{4} \\ &= \frac{6x-14-2x-3}{4} \\ &= \frac{4x-17}{2} \end{aligned}$$

$$\begin{aligned} \textcircled{7} \quad & 4 \left( 2x + \frac{2x-3}{4} \right) \\ &= 4 \times 2x + \frac{4 \times (2x-3)}{4} \\ &= 8x + (2x-3) \\ &= 8x + 2x - 3 \\ &= 10x - 3 \end{aligned}$$

$$\begin{aligned} \textcircled{9} \quad & 6 \left( \frac{3x-5}{2} + \frac{2x-5}{3} \right) \\ &= \frac{6(3x-5)}{2} + \frac{6(2x-5)}{3} \\ &= 3(3x-5) + 2(2x-5) \\ &= 9x-15+4x-10 \\ &= 13x-25 \end{aligned}$$

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

$$\begin{aligned} \textcircled{4} \quad & \frac{5x-3}{2} + \frac{2x-1}{3} \\ &= \frac{3(5x-3)}{6} + \frac{2(2x-1)}{6} \\ &= \frac{3(5x-3) + 2(2x-1)}{6} \\ &= \frac{15x-9+4x-2}{6} \\ &= \frac{19x-11}{2} \end{aligned}$$

$$\begin{aligned} \textcircled{6} \quad & \frac{5x-3}{2} - \frac{2x-1}{3} \\ &= \frac{3(5x-3)}{6} - \frac{2(2x-1)}{6} \\ &= \frac{3(5x-3) - 2(2x-1)}{6} \\ &= \frac{15x-9-4x+2}{6} \\ &= \frac{11x-7}{2} \end{aligned}$$

$$\begin{aligned} \textcircled{8} \quad & 4 \left( 2x - \frac{2x-3}{4} \right) \\ &= 4 \times 2x - \frac{4 \times (2x-3)}{4} \\ &= 8x - (2x-3) \\ &= 8x - 2x + 3 \\ &= 6x + 3 \end{aligned}$$

$$\begin{aligned} \textcircled{10} \quad & 6 \left( \frac{3x-5}{2} - \frac{2x-5}{3} \right) \\ &= \frac{6(3x-5)}{2} - \frac{6(2x-5)}{3} \\ &= 3(3x-5) - 2(2x-5) \\ &= 9x-15-4x+10 \\ &= 5x-5 \end{aligned}$$