

文字と式 [1次式のいろいろな計算]

<演習問題>

次の計算をせよ。

(1) $2(x + 1) + 3(x + 2)$

(10) $\frac{3x+1}{2} + x$

(2) $5(2x + 4) + 2(3x + 4)$

(11) $\frac{7x-2}{3} - x$

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

(12) $\frac{7x+5}{2} + \frac{2x-7}{3}$

(4) $4(a - 7) - 2(5a - 6)$

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

(13) $\frac{5x-6}{3} - \frac{x+2}{5}$

(6) $-7(y + 1) - 4(y + 2)$

(14) $\frac{7x-2}{4} - \frac{x-4}{3}$

(7) $7(y - 2) - 3(5y - 2)$

(8) $-(x - 5) + 2(x - 4)$

(15) $\frac{2-x}{5} - \frac{3-9x}{4}$

(9) $-(3x - 1) - 4(x - 1)$

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次の計算をせよ。

(1) $2(x+1) + 3(x+2)$

$$\begin{aligned} 2(x+1) + 3(x+2) &= 2x + 2 + 3x + 6 \\ &= 5x + 8 \end{aligned}$$

(2) $5(2x+4) + 2(3x+4)$

$$\begin{aligned} 5(2x+4) + 2(3x+4) &= 10x + 20 + 6x + 8 \\ &= 16x + 28 \end{aligned}$$

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

$$\begin{aligned} 2(2a-1) - 2(a+3) &= 4a - 2 - 2a - 6 \\ &= 2a - 8 \end{aligned}$$

(4) $4(a-7) - 2(5a-6)$

$$\begin{aligned} 4(a-7) - 2(5a-6) &= 4a - 28 - 10a + 12 \\ &= -6a - 16 \end{aligned}$$

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

$$\begin{aligned} -2(x-1) - 3(2x-1) &= -2x + 2 - 6x + 3 \\ &= -8x + 5 \end{aligned}$$

(6) $-7(y+1) - 4(y+2)$

$$\begin{aligned} -7(y+1) - 4(y+2) &= -7y - 7 - 4y - 8 \\ &= -11y - 15 \end{aligned}$$

(7) $7(y-2) - 3(5y-2)$

$$\begin{aligned} 7(y-2) - 3(5y-2) &= 7y - 14 - 15y + 6 \\ &= -8y - 8 \end{aligned}$$

(8) $-(x-5) + 2(x-4)$

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

(9) $-(3x-1) - 4(x-1)$

$$\begin{aligned} -(3x-1) - 4(x-1) &= -3x + 1 - 4x + 4 \\ &= -7x + 5 \end{aligned}$$

(10) $\frac{3x+1}{2} + x$

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

(11) $\frac{7x-2}{3} - x$

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

(12) $\frac{7x+5}{2} + \frac{2x-7}{3}$

$$\begin{aligned} \frac{7x+5}{2} + \frac{2x-7}{3} &= \frac{3(7x+5) + 2(2x-7)}{6} \\ &= \frac{21x+15+4x-14}{6} \\ &= \frac{25x+1}{6} \end{aligned}$$

(13) $\frac{5x-6}{3} - \frac{x+2}{5}$

$$\begin{aligned} \frac{5x-6}{3} - \frac{x+2}{5} &= \frac{5(5x-6) - 3(x+2)}{15} \\ &= \frac{25x-30-3x-6}{15} \\ &= \frac{22x-36}{15} \end{aligned}$$

(14) $\frac{7x-2}{4} - \frac{x-4}{3}$

$$\begin{aligned} \frac{7x-2}{4} - \frac{x-4}{3} &= \frac{3(7x-2) - 4(x-4)}{12} \\ &= \frac{21x-6-4x+16}{12} \\ &= \frac{17x+10}{12} \end{aligned}$$

(15) $\frac{2-x}{5} - \frac{3-9x}{4}$

$$\begin{aligned} \frac{2-x}{5} - \frac{3-9x}{4} &= \frac{4(2-x) - 5(3-9x)}{20} \\ &= \frac{8-4x-15+45x}{20} \\ &= \frac{41x-7}{20} \end{aligned}$$