

学習日 月 日

年 組 番 氏名

1 次の空らんにあてはまることばや式を書きなさい。

1次式と数の乗法は 法則
 を使って、次のように計算することができる。
 $a(b+c) =$

2 次の計算をしなさい。

① $4(x-3)$

② $-3(a+5)$

③ $(7x-8) \times (-5)$

④ $-(y-2)$

⑤ $\frac{2}{3}(6x+9)$

⑥ $(10x-5) \times \left(-\frac{2}{5}\right)$

⑦ $12\left(\frac{1}{6}a - \frac{2}{3}\right)$

3 次の計算をしなさい。

① $(20x-16) \div 4$

② $(15x+10) \div 5$

③ $(12x-9) \div (-3)$

④ $(6x-15) \div \frac{3}{4}$

⑤ $(-18y+12) \div \frac{6}{5}$

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1次式と数の乗法は **分配** 法則

を使って、次のように計算することができる。

$$a(b+c) = ab+ac$$

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

$$\begin{aligned} \textcircled{2} \quad & -3(a+5) \\ & = -3 \times a - 3 \times 5 \\ & = -3a - 15 \end{aligned}$$

$$\begin{aligned} \textcircled{3} \quad & (7x-8) \times (-5) \\ & = 7x \times (-5) - 8 \times (-5) \\ & = -35x + 40 \end{aligned}$$

$$\begin{aligned} \textcircled{4} \quad & -(y-2) \\ & = (-1) \times (y-2) \\ & = (-1) \times y + (-1) \times (-2) \\ & = -y + 2 \end{aligned}$$

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

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

$$\begin{aligned} \textcircled{7} \quad & 12 \left(\frac{1}{6}a - \frac{2}{3} \right) \\ & = 12 \times \frac{1}{6}a + 12 \times \left(-\frac{2}{3}\right) \\ & = \cancel{12} \times \frac{1}{\cancel{6}}a + \cancel{12} \times \left(-\frac{2}{\cancel{3}}\right) \\ & = 2a - 8 \end{aligned}$$

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1次式と数の除法は、乗法になおす(わる数を逆数にしてかける)か、分数の形にして計算する。

$$\begin{aligned} \textcircled{1} \quad & (20x-16) \div 4 \\ & = (20x-16) \times \frac{1}{4} \\ & = 20x \times \frac{1}{4} - 16 \times \frac{1}{4} \\ & = 5x - 4 \end{aligned}$$

【別解】

$$\begin{aligned} & (20x-16) \div 4 \\ & = \frac{20x-16}{4} \\ & = \frac{20x}{4} - \frac{16}{4} \\ & = 5x - 4 \end{aligned}$$

$$\begin{aligned} \textcircled{2} \quad & (15x+10) \div 5 \\ & = (15x+10) \times \frac{1}{5} \\ & = 15x \times \frac{1}{5} + 10 \times \frac{1}{5} \\ & = 3x + 2 \end{aligned}$$

【別解】

$$\begin{aligned} & (15x+10) \div 5 \\ & = \frac{15x+10}{5} \\ & = \frac{15x}{5} + \frac{10}{5} \\ & = 3x + 2 \end{aligned}$$

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

【別解】

$$\begin{aligned} & (12x-9) \div (-3) \\ & = \frac{12x-9}{-3} \\ & = -\frac{12x}{3} + \frac{9}{3} \\ & = -4x + 3 \end{aligned}$$

$$\begin{aligned} \textcircled{4} \quad & (6x-15) \div \frac{3}{4} \\ & = (6x-15) \times \frac{4}{3} \\ & = 6x \times \frac{4}{3} - 15 \times \frac{4}{3} \\ & = 8x - 20 \end{aligned}$$

$$\begin{aligned} \textcircled{5} \quad & (-18y+12) \div \frac{6}{5} \\ & = (-18y+12) \times \frac{5}{6} \\ & = -18y \times \frac{5}{6} + 12 \times \frac{5}{6} \\ & = -15y + 10 \end{aligned}$$