

数学019 「中3 単項式と多項式の乗法・除法」

★ 次の計算をなさい。

$$\begin{aligned} (1) \quad & a(3a + 2b) \\ & = a \times 3a + a \times 2b \\ & = 3a^2 + 2ab \end{aligned}$$

$$\begin{aligned} (3) \quad & (x - 2y) \times (-3y) \\ & = x \times (-3y) + (-2y) \times (-3y) \\ & = -3xy + 6y^2 \end{aligned}$$

$$\begin{aligned} (5) \quad & (8ab^2 + 12ab) \div (-4b) \\ & = 8ab^2 \div (-4b) + 12ab \div (-4b) \\ & = \frac{8ab^2}{-4b} + \frac{12ab}{-4b} \\ & = -2ab + (-3a) \\ & = -2ab - 3a \end{aligned}$$

$$\begin{aligned} (6) \quad & (5x^2 + 7xy) \div \frac{x}{2} \\ & = (5x^2 + 7xy) \times \frac{2}{x} \\ & = 5x^2 \times \frac{2}{x} + 7xy \times \frac{2}{x} \\ & = 10x + 14y \end{aligned}$$

$$\begin{aligned} (7) \quad & (6xy - 4y) \div \left(-\frac{2}{3}y\right) \\ & = (6xy - 4y) \times \left(-\frac{3}{2y}\right) \\ & = 6xy \times \left(-\frac{3}{2y}\right) - 4y \times \left(-\frac{3}{2y}\right) \\ & = -\frac{6xy \times 3}{2y} + \frac{4y \times 3}{2y} \\ & = -9x + 6 \end{aligned}$$

$$\begin{aligned} (2) \quad & -4x(5x - 9y) \\ & = -4x \times 5x - 4x \times (-9y) \\ & = -20x^2 + 36xy \end{aligned}$$

$$\begin{aligned} (4) \quad & (6x^2 - 9x) \div 3x \\ & = 6x^2 \div 3x - 9x \div 3x \\ & = \frac{6x^2}{3x} - \frac{9x}{3x} \\ & = 2x - 3 \end{aligned}$$

＜別解＞

$$\begin{aligned} & (8ab^2 + 12ab) \div \left(-\frac{1}{4b}\right) \\ & = (8ab^2 + 12ab) \times \left(-\frac{1}{4b}\right) \\ & = 8ab^2 \times \left(-\frac{1}{4b}\right) + 12ab \times \left(-\frac{1}{4b}\right) \\ & = -\frac{8ab^2}{4b} - \frac{12ab}{4b} \\ & = -2ab - 3a \end{aligned}$$

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$$(1) \quad a(3a + 2b)$$

$$(2) \quad -4x(5x - 9y)$$

$$(3) \quad (x - 2y) \times (-3y)$$

$$(4) \quad (6x^2 - 9x) \div 3x$$

$$(5) \quad (8ab^2 + 12ab) \div (-4b)$$

$$(6) \quad (5x^2 + 7xy) \div \frac{x}{2}$$

$$(7) \quad (6xy - 4y) \div \left(-\frac{2}{3}y\right)$$