

## 式の計算 [単項式の乗法と除法]

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<演習問題>

次の計算をせよ。

(1)  $2x \times 3y$

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

(3)  $(-4x) \times (-6x)$

(4)  $\frac{1}{4}x \times \left(-\frac{6}{5}x\right)$

(5)  $2x \times 5x^4$

(6)  $2y \times 2x^3y$

(7)  $3x^2 \times (-2x^3)$

(8)  $12ab \div 3a$

(9)  $15ab^2 \div 5b$

(10)  $12a^2b \div 2ab$

(11)  $2a \times 6b \div (-3a)$

(12)  $12a^5 \div 2a \div 2a$

(13)  $2a^2 \times 3b^3 \div 3ab$

(14)  $24a^4b^5 \div (-3a) \times (-2b)$

(15)  $5a \div \frac{3}{8}a \times \left(-\frac{3}{4}a\right)$

(16)  $4a \times (3ab)^3 \div 2a^3b$

(17)  $(9x)^3 \times 2x \div (3x)^2$

(18)  $(4a^2b)^2 \div (-2a)^3 \times (-2b)^4$

## 式の計算 [単項式の乗法と除法]

### <演習問題>

次の計算をせよ。

(1)  $2x \times 3y$

$$\begin{aligned} 2x \times 3y &= 2 \times 3 \times x \times y \\ &= 6xy \end{aligned}$$

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

$$\begin{aligned} 3x \times (-3y) &= 3 \times (-3) \times x \times y \\ &= -9xy \end{aligned}$$

(3)  $(-4x) \times (-6x)$

$$\begin{aligned} (-4x) \times (-6x) &= (-4) \times (-6) \times x \times x \\ &= 24x^2 \end{aligned}$$

(4)  $\frac{1}{4}x \times \left(-\frac{6}{5}x\right)$

$$\begin{aligned} \frac{1}{4}x \times \left(-\frac{6}{5}x\right) &= \frac{1}{4} \times \left(-\frac{6}{5}\right) \times x \times x \\ &= -\frac{3}{10}x^2 \end{aligned}$$

(5)  $2x \times 5x^4$

$$\begin{aligned} 2x \times 5x^4 &= 2 \times 5 \times x \times x^4 \\ &= 10x^5 \end{aligned}$$

(6)  $2y \times 2x^3y$

$$\begin{aligned} 2y \times 2x^3y &= 2 \times 2 \times x^3y \times y \\ &= 4x^3y^2 \end{aligned}$$

(7)  $3x^2 \times (-2x^3)$

$$\begin{aligned} 3x^2 \times (-2x^3) &= 3 \times (-2) \times x^2 \times x^3 \\ &= -6x^5 \end{aligned}$$

(8)  $12ab \div 3a$

$$\begin{aligned} 12ab \div 3a &= 12ab \times \frac{1}{3a} \\ &= 4b \end{aligned}$$

(9)  $15ab^2 \div 5b$

$$\begin{aligned} 15ab^2 \div 5b &= 15ab^2 \times \frac{1}{5b} \\ &= 3ab \end{aligned}$$

(10)  $12a^2b \div 2ab$

$$\begin{aligned} 12a^2b \div 2ab &= 12a^2b \times \frac{1}{2ab} \\ &= 6a \end{aligned}$$

(11)  $2a \times 6b \div (-3a)$

$$\begin{aligned} 2a \times 6b \div (-3a) &= 2a \times 6b \times \left(-\frac{1}{3a}\right) \\ &= -4b \end{aligned}$$

(12)  $12a^5 \div 2a \div 2a$

$$\begin{aligned} 12a^5 \div 2a \div 2a &= 12a^5 \times \frac{1}{2a} \times \frac{1}{2a} \\ &= 3a^3 \end{aligned}$$

(13)  $2a^2 \times 3b^3 \div 3ab$

$$\begin{aligned} 2a^2 \times 3b^3 \div 3ab &= 2a^2 \times 3b^3 \times \frac{1}{3ab} \\ &= 2ab^2 \end{aligned}$$

(14)  $24a^4b^5 \div (-3a) \times (-2b)$

$$\begin{aligned} 24a^4b^5 \div (-3a) \times (-2b) &= 24a^4b^5 \times \left(-\frac{1}{3a}\right) \times (-2b) \\ &= 16a^3b^6 \end{aligned}$$

(15)  $5a \div \frac{3}{8}a \times \left(-\frac{3}{4}a\right)$

$$\begin{aligned} 5a \div \frac{3}{8}a \times \left(-\frac{3}{4}a\right) &= 5a \times \frac{8}{3a} \times \left(-\frac{3}{4}a\right) \\ &= -10a \end{aligned}$$

(16)  $4a \times (3ab)^3 \div 2a^3b$

$$\begin{aligned} 4a \times (3ab)^3 \div 2a^3b &= 4a \times 27a^3b^3 \times \frac{1}{2a^3b} \\ &= 54ab^2 \end{aligned}$$

(17)  $(9x)^3 \times 2x \div (3x)^2$

$$\begin{aligned} (9x)^3 \times 2x \div (3x)^2 &= 9^3x^3 \times 2x \times \frac{1}{9x^2} \\ &= 162x^2 \end{aligned}$$

(18)  $(4a^2b)^2 \div (-2a)^3 \times (-2b)^4$

$$\begin{aligned} (4a^2b)^2 \div (-2a)^3 \times (-2b)^4 &= 16a^4b^2 \times \left(-\frac{1}{8a^3}\right) \times 16b^4 \\ &= -32ab^6 \end{aligned}$$