

乗法の公式の練習 (2)

学習日 月 日

年 組 番 氏名

(1) 次の式を展開しなさい。

① $(2x+3)(2x+7)$

② $(3x+4)(3x+5)$

③ $(-x+8)(-x+1)$

④ $(-3x+5)^2$

⑤ $(4x+y)(4x+3y)$

⑥ $(2x+7y)(2x-7y)$

(2) 次の式を展開しなさい。

① $(2x+3y)(5x+3y)$

② $(3x+2y)(-7x+2y)$

③ $(6x+y)(5x+y)$

④ $(-7x+8y)(7x+8y)$

(3) 次の式を展開しなさい。

① $(0.3x+y)(0.3x+2y)$

② $(0.6x-y)(0.6x+y)$

③ $\left(\frac{1}{2}x + \frac{1}{3}y\right)^2$

④ $\left(\frac{1}{4}x - \frac{3}{5}y\right)\left(\frac{1}{4}x + \frac{3}{5}y\right)$

⑤ $\left(\frac{1}{2}x + 3y\right)\left(\frac{1}{2}x - 4y\right)$

⑥ $\left(\frac{1}{3}x + \frac{1}{2}y\right)\left(\frac{5}{6}x + \frac{1}{2}y\right)$

(4) 次の式を展開しなさい。

① $2(x+3)(x-10)$

② $3(x+8)(x-7)$

③ $-(x+2)(x+6)$

④ $-(x-6)(-x+6)$

⑤ $-(2x-7)^2$

⑥ $-(3y-2)(3y+2)$

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(1) 次の式を展開しなさい。

$$\begin{aligned} \textcircled{1} (2x+3)(2x+7) \\ = 4x^2 + 20x + 21 \end{aligned}$$

$$\begin{aligned} \textcircled{2} (3x+4)(3x+5) \\ = 9x^2 + 27x + 20 \end{aligned}$$

$$\begin{aligned} \textcircled{3} (-x+8)(-x+1) \\ = x^2 - 9x + 8 \end{aligned}$$

$$\begin{aligned} \textcircled{4} (-3x+5)^2 \\ = 9x^2 - 30x + 25 \end{aligned}$$

$$\begin{aligned} \textcircled{5} (4x+y)(4x+3y) \\ = 16x^2 + 16xy + 3y^2 \end{aligned}$$

$$\begin{aligned} \textcircled{6} (2x+7y)(2x-7y) \\ = 4x^2 - 49y^2 \end{aligned}$$

(2) 次の式を展開しなさい。

$$\begin{aligned} \textcircled{1} (2x+3y)(5x+3y) \\ = 10x^2 + 21xy + 9y^2 \end{aligned}$$

$$\begin{aligned} \textcircled{2} (3x+2y)(-7x+2y) \\ = -21x^2 - 8xy + 4y^2 \end{aligned}$$

$$\begin{aligned} \textcircled{3} (6x+y)(5x+y) \\ = 30x^2 + 11xy + y^2 \end{aligned}$$

$$\begin{aligned} \textcircled{4} (-7x+8y)(7x+8y) \\ = -49x^2 + 64y^2 \end{aligned}$$

(3) 次の式を展開しなさい。

$$\begin{aligned} \textcircled{1} (0.3x+y)(0.3x+2y) \\ = 0.09x^2 + 0.9xy + 2y^2 \end{aligned}$$

$$\begin{aligned} \textcircled{2} (0.6x-y)(0.6x+y) \\ = 0.36x^2 - y^2 \end{aligned}$$

$$\begin{aligned} \textcircled{3} \left(\frac{1}{2}x + \frac{1}{3}y\right)^2 \\ = \frac{1}{4}x^2 + \frac{1}{3}xy + \frac{1}{9}y^2 \end{aligned}$$

$$\begin{aligned} \textcircled{4} \left(\frac{1}{4}x - \frac{3}{5}y\right)\left(\frac{1}{4}x + \frac{3}{5}y\right) \\ = \frac{1}{16}x^2 - \frac{9}{25}y^2 \end{aligned}$$

$$\begin{aligned} \textcircled{5} \left(\frac{1}{2}x + 3y\right)\left(\frac{1}{2}x - 4y\right) \\ = \frac{1}{4}x^2 - \frac{1}{2}xy - 12y^2 \end{aligned}$$

$$\begin{aligned} \textcircled{6} \left(\frac{1}{3}x + \frac{1}{2}y\right)\left(\frac{5}{6}x + \frac{1}{2}y\right) \\ = -\frac{5}{18}x^2 + \frac{7}{12}xy + \frac{1}{4}y^2 \end{aligned}$$

(4) 次の式を展開しなさい。

$$\begin{aligned} \textcircled{1} 2(x+3)(x-10) \\ = 2x^2 - 14x - 60 \end{aligned}$$

$$\begin{aligned} \textcircled{2} 3(x+8)(x-7) \\ = 3x^2 + 3x - 168 \end{aligned}$$

$$\begin{aligned} \textcircled{3} -(x+2)(x+6) \\ = -x^2 - 8x - 12 \end{aligned}$$

$$\begin{aligned} \textcircled{4} -(x-6)(-x+6) \\ = x^2 - 12x + 36 \end{aligned}$$

$$\begin{aligned} \textcircled{5} -(2x-7)^2 \\ = -4x^2 + 28x - 49 \end{aligned}$$

$$\begin{aligned} \textcircled{6} -(3y-2)(3y+2) \\ = -9y^2 + 4 \end{aligned}$$