

入試対策プリント（計算等基本問題） 1日目 解答と解説

解答 (1) -15 (2) -27 (3) $5\sqrt{2}$

$$\begin{aligned}(1) \quad & -5 \times 3 \\ & = -(5 \times 3) \\ & = -15\end{aligned}$$

$$\begin{aligned}(2) \quad & 9 - 6^2 \\ & = 9 - 6 \times 6 \\ & = 9 - 36 \\ & = -(36 - 9) \\ & = -27\end{aligned}$$

$$\begin{aligned}(3) \quad & \text{(解法①)} \\ & \sqrt{14} \times \sqrt{7} - \sqrt{8} \\ & = \sqrt{7} \times \sqrt{7} \times \sqrt{2} - 2\sqrt{2} \\ & = 7\sqrt{2} - 2\sqrt{2} \\ & = 5\sqrt{2}\end{aligned}$$

$$\begin{aligned}& \text{(解法②)} \\ & \sqrt{14} \times \sqrt{7} - \sqrt{8} \\ & = \sqrt{98} - 2\sqrt{2} \\ & = 7\sqrt{2} - 2\sqrt{2} \\ & = 5\sqrt{2}\end{aligned}$$

入試対策プリント（計算等基本問題）2日目 解答と解説

解答 (1) 2 (2) -5 (3) $\frac{4}{5}y$ (4) $-4a^2+18$ (5) $-\sqrt{3}$

$$\begin{aligned}(1) \quad & -5-(-7) \\ & =-5+7 \\ & =2\end{aligned}$$

$$\begin{aligned}(2) \quad & \left(\frac{1}{4}-\frac{2}{3}\right)\times 12 \\ & =\frac{1}{4}\times 12-\frac{2}{3}\times 12 \\ & =3-8 \\ & =-5\end{aligned}$$

$$\begin{aligned}(3) \quad & 4x\times\frac{2}{5}xy\div 2x^2 \\ & =\frac{4x\times 2xy}{5\times 2x^2} \\ & =\frac{4}{5}y\end{aligned}$$

$$\begin{aligned}(4) \quad & (-2a+3)(2a+3)+9 \\ & =-4a^2+9+9 \\ & =-4a^2+18\end{aligned}$$

$$\begin{aligned}(5) \quad & \sqrt{24}\div\sqrt{8}-\sqrt{12} \\ & =\sqrt{\frac{24}{8}}-2\sqrt{3} \\ & =\sqrt{3}-2\sqrt{3} \\ & =-\sqrt{3}\end{aligned}$$

入試対策プリント（計算等基本問題）3日目 解答と解説

解答 (1) -3 (2) $4a+2$ (3) 6 (4) $x=-1, y=5$ (5) $x=\frac{3\pm\sqrt{17}}{2}$

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

$$\begin{aligned}(2) \quad & 6\times\frac{2a+1}{3} \\ & =2(2a+1)=4a+2\end{aligned}$$

$$\begin{aligned}(3) \quad & (\sqrt{7}-1)(\sqrt{7}+1) \\ & =(\sqrt{7})^2-1^2 \\ & =7-1 \\ & =6\end{aligned}$$

$$(4) \quad \begin{cases} y=x+6 \\ y=-2x+3 \end{cases}$$

代入法で解く。

$$x+6=-2x+3$$

$$x+2x=3-6$$

$$3x=-3$$

$$x=-1$$

これを代入すると

$$y=-1+6$$

$$y=5$$

よって、 $x=-1, y=5$

$$(5) \quad x^2-3x-2=0$$

$$x=\frac{3\pm\sqrt{(-3)^2-4\times 1\times(-2)}}{2}$$

$$x=\frac{3\pm\sqrt{17}}{2}$$

入試対策プリント（計算等基本問題）4日目 解答と解説

解答 (1) -5 (2) $-\frac{18}{25}$ (3) $3y+2$ (4) $4ab$ (5) $x=-3, 8$

$$\begin{aligned}(1) \quad & 7-12 \\ & =-(12-7) \\ & =-5\end{aligned}$$

$$\begin{aligned}(2) \quad & -\frac{9}{10} \div \frac{5}{4} \\ & =-\frac{9}{10} \times \frac{4}{5} \\ & =-\frac{9}{5} \times \frac{2}{5} \\ & =-\frac{18}{25}\end{aligned}$$

$$\begin{aligned}(3) \quad & 3(4x+y)+2(-6x+1) \\ & =12x+3y-12x+2 \\ & =3y+2\end{aligned}$$

$$\begin{aligned}(4) \quad & 6a^2b \times 2b \div 3ab \\ & =\frac{6a^2b \times 2b}{3ab} \\ & =4ab\end{aligned}$$

$$\begin{aligned}(5) \quad & \sqrt{32}-\sqrt{18}+\sqrt{2} \\ & =4\sqrt{2}-3\sqrt{2}+\sqrt{2} \\ & =2\sqrt{2}\end{aligned}$$

$$\begin{aligned}(6) \quad & x^2-5x-24=0 \\ & (x-8)(x+3)=0 \\ & x=-3, 8\end{aligned}$$

入試対策プリント（計算等基本問題）5日目 解答と解説

解答 (1) 0.6 (2) $3\sqrt{2}$ (3) -9 (4) $x=4$ (5) $x=-1, y=1$

$$\begin{aligned}(1) \quad & 1 + (-0.2) \times 2 \\ & = 1 - 0.4 \\ & = 0.6\end{aligned}$$

$$\begin{aligned}(2) \quad & \frac{6}{\sqrt{2}} = \frac{6 \times \sqrt{2}}{\sqrt{2} \times \sqrt{2}} \\ & = \frac{6\sqrt{2}}{2} \\ & = 3\sqrt{2}\end{aligned}$$

$$\begin{aligned}(3) \quad & 3(a-2b) - 5(3a-b) = 3a - 6b - 15a + 5b \\ & = -12a - b \\ & = -12 \times \frac{1}{2} - 3 \\ & = -6 - 3 \\ & = -9\end{aligned}$$

$$\begin{aligned}(4) \quad & \frac{2x+4}{3} = 4 \\ & 2x+4 = 12 \\ & 2x = 8 \\ & x = 4\end{aligned}$$

$$(5) \quad \begin{cases} 2x - 3y = -5 \\ x = -5y + 4 \end{cases}$$

代入法で解くと,

$$\begin{aligned}2(-5y+4) - 3y &= -5 \\ -10y + 8 - 3y &= -5 \\ y &= 1 \\ x &= -5 \times 1 + 4 \\ x &= -1\end{aligned}$$

入試対策プリント（計算等基本問題） 6日目 解答と解説

解答 (1) -1 (2) $\frac{7}{6}$ (3) $-24a^2b$ (4) $8+2\sqrt{3}$

$$\begin{aligned}(1) \quad & 6-9-(-2) \\ & =6-9+2 \\ & =6+2-9 \\ & =8-9 \\ & =-1\end{aligned}$$

$$\begin{aligned}(2) \quad & \left(-\frac{2}{5}+\frac{4}{3}\right)\div\frac{4}{5} \\ & =\left(-\frac{6}{15}+\frac{20}{15}\right)\times\frac{5}{4} \\ & =\frac{14}{15}\times\frac{5}{4} \\ & =\frac{7}{6}\end{aligned}$$

$$\begin{aligned}(3) \quad & (-3a)^2\div 6ab\times(-16ab^2) \\ & =9a^2\div 6ab\times(-16ab^2) \\ & =-\frac{9a^2\times 16ab^2}{6ab} \\ & =-24a^2b\end{aligned}$$

$$\begin{aligned}(4) \quad & (\sqrt{3}+1)(\sqrt{3}+5)-\sqrt{48} \\ & =(\sqrt{3})^2+6\sqrt{3}+5-4\sqrt{3} \\ & =3+6\sqrt{3}+5-4\sqrt{3} \\ & =8+2\sqrt{3}\end{aligned}$$

入試対策プリント（計算等基本問題）7日目 解答と解説

解答 (1) -6 (2) -9 (3) $5x + 2y$ (4) $3\sqrt{5}$

$$\begin{aligned}(1) \quad & -1-5 \\ & =-(1+5) \\ & =-6\end{aligned}$$

$$\begin{aligned}(2) \quad & (-12) \div \frac{4}{3} \\ & =-12 \times \frac{3}{4} \\ & =-9\end{aligned}$$

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

$$\begin{aligned}(4) \quad & \sqrt{20} + \sqrt{5} \\ & =2\sqrt{5} + \sqrt{5} \\ & =(2+1)\sqrt{5} \\ & =3\sqrt{5}\end{aligned}$$

入試対策プリント（計算等基本問題） 8日目 解答と解説

解答 (1) -9 (2) $-2x+7y$ (3) $-\frac{2}{3}a^3b^2$ (4) $15\sqrt{2}$ (5) x^2-64

$$\begin{aligned}(1) \quad & (-18) \div 2 \\ & = -(18 \div 2) \\ & = -9\end{aligned}$$

$$\begin{aligned}(2) \quad & 4(x+y) - 3(2x-y) \\ & = 4x + 4y - 6x + 3y \\ & = 4x - 6x + 4y + 3y \\ & = -2x + 7y\end{aligned}$$

$$\begin{aligned}(3) \quad & \frac{1}{6}a^2 \times (-4ab^2) \\ & = -\frac{a^2 \times 4ab^2}{6} \\ & = -\frac{2}{3}a^3b^2\end{aligned}$$

$$\begin{aligned}(4) \quad & 5\sqrt{6} \times \sqrt{3} \\ & = 5\sqrt{2} \times \sqrt{3} \times \sqrt{3} \\ & = 5 \times \sqrt{2} \times 3 \\ & = 15\sqrt{2}\end{aligned}$$

$$\begin{aligned}(5) \quad & (x+8)(x-8) \\ & = x^2 - 64\end{aligned}$$

入試対策プリント（計算等基本問題）9日目 解答と解説

解答 (1) -7 (2) $\frac{5}{2}x$ (3) $4ab^2$ (4) $(x-5)^2$ (5) $x=-1, y=2$

$$\begin{aligned}(1) \quad & 1+2 \times (-4) \\ & =1-8 \\ & =-7\end{aligned}$$

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

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

$$(4) \quad x^2 - 10x + 25$$

考え方

$10 \div 2 = 5$ となり、5 を2 乗すると25 になる。

よって、

$$x^2 - 10x + 25 = (x - 5)^2$$

$$(5) \quad \begin{cases} 2x + 3y = 4 \\ -x + y = 3 \end{cases}$$

$$\begin{cases} 2x + 3y = 4 \cdots \text{①} \\ -2x + 2y = 6 \cdots \text{②} \end{cases}$$

$$\text{①} + \text{②} \text{ より } 5y = 10$$

よって、 $y = 2$

これを①に代入すると、 $2x + 6 = 4$

$$x = -1$$

したがって、 $x = -1, y = 2$

入試対策プリント（計算等基本問題） 10日目 解答と解説

解答 (1) $2x$ (2) 13 (3) $4x^2$ (4) $x=1$ (5) $-3\sqrt{2}$ (6) $(x+6)(x-2)$

$$\begin{aligned}(1) \quad & 7x - 5x \\ &= (7 - 5)x \\ &= 2x\end{aligned}$$

$$\begin{aligned}(2) \quad & (-5) \times (-2) + 3 \\ &= 10 + 3 \\ &= 13\end{aligned}$$

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

$$\begin{aligned}(4) \quad & 5x + 3 = 2x + 6 \\ & 5x - 2x = 6 - 3 \\ & 3x = 3 \\ & x = 1\end{aligned}$$

$$\begin{aligned}(5) \quad & \sqrt{18} - 6\sqrt{2} \\ &= 3\sqrt{2} - 6\sqrt{2} \\ &= -3\sqrt{2}\end{aligned}$$

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