

得 点		演習問題	実施 日	月	日	氏 名	
				二次方程式 ②			

【1】 次の2次方程式を解きなさい。

① $x^2 = 16$

② $x^2 - 25 = 0$

③ $x^2 - 5 = 0$

④ $x^2 - 45 = 0$

⑤ $x^2 - 150 = 0$

⑥ $3x^2 - 432 = 0$

⑦ $(x-2)^2 = 16$

⑧ $(x-5)^2 = 9$

⑨ $(x-1)^2 = 5$

⑩ $(x+4)^2 = 50$

⑪ $(x+5)^2 = 98$

⑫ $24x^2 - 11 = 9$

⑬ $9(x-8)^2 = 5$

⑭ $16(x-1)^2 = 49$

【2】 次の方程式を簡単にしてから因数分解によって解きなさい。

① $x^2 - 5x + 16 = 3x$

② $x^2 + 8x - 7 = 5x + 3$

③ $6x^2 - 2x = 5x^2 + 3$

④ $24x = 16x^2 + 9$

⑤ $\frac{1}{3}x^2 + \frac{8}{3}x + 5 = 0$

⑥ $\frac{1}{6}x^2 + \frac{2}{3}x - \frac{15}{2} = 0$

⑦ $3x^2 + 10x = 2x^2 - 5x - 56$

⑧ $2x^2 - 27 = x^2 + 4x + 18$

⑨ $(x-4)(x+2) = 7$

⑩ $(x+1)^2 = -2x + 6$

得点		演習問題 (解答)	実施日	月	日	氏名
				二次方程式 ②		

【1】 次の2次方程式を解きなさい。

① $x^2 = 16$

$$\underline{x = \pm 4}$$

③ $x^2 - 5 = 0$

$$\begin{aligned} x^2 &= 5 \\ \underline{x = \pm\sqrt{5}} \end{aligned}$$

⑤ $x^2 - 150 = 0$

$$\begin{aligned} x^2 &= 150 \\ \underline{x = \pm 5\sqrt{6}} \end{aligned}$$

⑦ $(x-2)^2 = 16$

$$\begin{aligned} x-2 &= \pm 4 \\ x &= 2 \pm 4 \\ \underline{x = 6, x = -2} \end{aligned}$$

⑨ $(x-1)^2 = 5$

$$\begin{aligned} x-1 &= \pm\sqrt{5} \\ \underline{x = 1 \pm\sqrt{5}} \end{aligned}$$

⑪ $(x+5)^2 = 98$

$$\begin{aligned} x+5 &= \pm 7\sqrt{2} \\ \underline{x = -5 \pm 7\sqrt{2}} \end{aligned}$$

⑬ $9(x-8)^2 = 5$

$$\begin{aligned} (x-8)^2 &= \frac{5}{9} \\ x-8 &= \pm \frac{\sqrt{5}}{3} \\ \underline{x = 8 \pm \frac{\sqrt{5}}{3}} \end{aligned}$$

② $x^2 - 25 = 0$

$$\begin{aligned} x^2 &= 25 \\ \underline{x = \pm 5} \end{aligned}$$

④ $x^2 - 45 = 0$

$$\begin{aligned} x^2 &= 45 \\ \underline{x = \pm 3\sqrt{5}} \end{aligned}$$

⑥ $3x^2 - 432 = 0$

$$\begin{aligned} 3x^2 &= 432 \\ x^2 &= 144 \\ \underline{x = \pm 12} \end{aligned}$$

⑧ $(x-5)^2 = 9$

$$\begin{aligned} x-5 &= \pm 3 \\ x &= 5 \pm 3 \\ \underline{x = 8, x = 2} \end{aligned}$$

⑩ $(x+4)^2 = 50$

$$\begin{aligned} x+4 &= \pm 5\sqrt{2} \\ \underline{x = -4 \pm 5\sqrt{2}} \end{aligned}$$

⑫ $24x^2 - 11 = 9$

$$\begin{aligned} 24x^2 &= 20 \\ x^2 &= \frac{5}{6} \\ \underline{x = \pm \frac{\sqrt{30}}{6}} \end{aligned}$$

⑭ $16(x-1)^2 = 49$

$$\begin{aligned} (x-1)^2 &= \frac{49}{16} \\ x-1 &= \pm \frac{7}{4} \\ \underline{x = \frac{11}{4}, x = -\frac{3}{4}} \end{aligned}$$

【2】 次の方程式を簡単にしてから因数分解によって解きなさい。

① $x^2 - 5x + 16 = 3x$

$$\begin{aligned} x^2 - 8x + 16 &= 0 \\ (x-4)^2 &= 0 \\ \underline{x = 4} \end{aligned}$$

② $x^2 + 8x - 7 = 5x + 3$

$$\begin{aligned} x^2 + 3x - 10 &= 0 \\ (x+5)(x-2) &= 0 \\ \underline{x = 2, x = -5} \end{aligned}$$

③ $6x^2 - 2x = 5x^2 + 3$

$$\begin{aligned} x^2 - 2x - 3 &= 0 \\ (x-3)(x+1) &= 0 \\ \underline{x = 3, x = -1} \end{aligned}$$

④ $24x = 16x^2 + 9$

$$\begin{aligned} -16x^2 + 24x - 9 &= 0 \\ 16x^2 - 24x + 9 &= 0 \\ (4x-3)^2 &= 0 \\ \underline{x = \frac{3}{4}} \end{aligned}$$

⑤ $\frac{1}{3}x^2 + \frac{8}{3}x + 5 = 0$

$$\begin{aligned} &\text{両辺に 3 をかけて} \\ x^2 + 8x + 15 &= 0 \\ (x+3)(x+5) &= 0 \\ \underline{x = -3, -5} \end{aligned}$$

⑥ $\frac{1}{6}x^2 + \frac{2}{3}x - \frac{15}{2} = 0$

$$\begin{aligned} &\text{両辺に 6 をかけて} \\ x^2 + 4x - 45 &= 0 \\ (x+9)(x-5) &= 0 \\ \underline{x = 5, x = -9} \end{aligned}$$

⑦ $3x^2 + 10x = 2x^2 - 5x - 56$

$$\begin{aligned} x^2 + 15x + 56 &= 0 \\ (x+7)(x+8) &= 0 \\ \underline{x = -7, x = -8} \end{aligned}$$

⑧ $2x^2 - 27 = x^2 + 4x + 18$

$$\begin{aligned} x^2 - 4x - 45 &= 0 \\ (x-9)(x+5) &= 0 \\ \underline{x = 9, x = -5} \end{aligned}$$

⑨ $(x-4)(x+2) = 7$

$$\begin{aligned} x^2 - 2x - 15 &= 0 \\ (x-5)(x+3) &= 0 \\ \underline{x = 5, x = -3} \end{aligned}$$

⑩ $(x+1)^2 = -2x + 6$

$$\begin{aligned} x^2 + 2x + 1 &= -2x + 6 \\ x^2 + 4x - 5 &= 0 \\ (x+5)(x-1) &= 0 \\ \underline{x = 1, x = -5} \end{aligned}$$