

チェックテスト

12A

2次方程式の解き方①

得点

/ 100

1 次の方程式を解きなさい。

ステップ 1

①  $x^2 = 6$

②  $x^2 - 12 = 0$   
 $x^2 = 12$

③  $2x^2 = 50$   
 $x^2 = 25$

④  $2x^2 + 3 = 21$   
 $2x^2 = 18$   
 $x^2 = 9$

⑤  $3x^2 + 1 = 7$   
 $3x^2 = 6$   
 $x^2 = 2$

⑥  $25x^2 - 7 = -3$   
 $25x^2 = 4$   
 $x^2 = \frac{4}{25}$

2 次の方程式を解きなさい。

ステップ 2

①  $(x - 1)^2 = 81$   
 $x - 1 = \pm 9$   
 $x = 1 \pm 9$

②  $(x + 3)^2 + 2 = 8$   
 $(x + 3)^2 = 6$   
 $x + 3 = \pm \sqrt{6}$

③  $2(x - 2)^2 - 16 = 0$   
 $2(x - 2)^2 = 16$   
 $(x - 2)^2 = 8$   
 $x - 2 = \pm 2\sqrt{2}$

④  $5(x + 6)^2 + 6 = 11$   
 $5(x + 6)^2 = 5$   
 $(x + 6)^2 = 1$   
 $x + 6 = \pm 1$   
 $x = -6 \pm 1$

⑤  $4(x - 1)^2 = 20$   
 $(x - 1)^2 = 5$   
 $x - 1 = \pm \sqrt{5}$

⑥  $7(x + 2)^2 = 4$   
 $(x + 2)^2 = \frac{4}{7}$   
 $x + 2 = \pm \frac{2}{\sqrt{7}}$   
 $x + 2 = \pm \frac{2\sqrt{7}}{7}$

3 次の方程式を解きなさい。

ステップ 3

①  $x^2 + 2x = 8$   
 $x^2 + 2x + 1 = 8 + 1$   
 $(x + 1)^2 = 9$   
 $x + 1 = \pm 3$   
 $x = -1 \pm 3$

②  $x^2 - 4x = -3$   
 $x^2 - 4x + 2 = -3 + 2$   
 $(x - 2)^2 = 1$   
 $x - 2 = \pm 1$   
 $x = 2 \pm 1$

③  $x^2 + 4x - 8 = 0$   
 $x^2 + 4x = 8$   
 $x^2 + 4x + 2 = 8 + 2$   
 $(x + 2)^2 = 12$   
 $x + 2 = \pm 2\sqrt{3}$

④  $x^2 - 6x + 7 = 0$   
 $x^2 - 6x = -7$   
 $x^2 - 6x + 3 = -7 + 3$   
 $(x - 3)^2 = 2$   
 $x - 3 = \pm \sqrt{2}$

⑤  $x^2 - 8x + 13 = 0$   
 $x^2 - 8x = -13$   
 $x^2 - 8x + 4 = -13 + 4$   
 $(x - 4)^2 = 3$   
 $x - 4 = \pm \sqrt{3}$

⑥  $x^2 + 12x - 4 = 0$   
 $x^2 + 12x = 4$   
 $x^2 + 12x + 6 = 4 + 6$   
 $(x + 6)^2 = 40$   
 $x + 6 = \pm 2\sqrt{10}$

⑦  $x^2 - 3x = 2$   
 $x^2 - 3x + \left(\frac{3}{2}\right)^2 = 2 + \left(\frac{3}{2}\right)^2$   
 $\left(x - \frac{3}{2}\right)^2 = \frac{17}{4}$   
 $x - \frac{3}{2} = \pm \frac{\sqrt{17}}{2}$

⑧  $x^2 + 5x + 2 = 0$   
 $x^2 + 5x = -2$   
 $x^2 + 5x + \left(\frac{5}{2}\right)^2 = -2 + \left(\frac{5}{2}\right)^2$   
 $\left(x + \frac{5}{2}\right)^2 = \frac{17}{4}$   
 $x + \frac{5}{2} = \pm \frac{\sqrt{17}}{2}$

1

5点×6

①  $x = \pm \sqrt{6}$

②  $x = \pm 2\sqrt{3}$

③  $x = \pm 5$

④  $x = \pm 3$

⑤  $x = \pm \sqrt{2}$

⑥  $x = \pm \frac{2}{5}$

2

5点×6

①  $x = 10, -8$

②  $x = -3 \pm \sqrt{6}$

③  $x = 2 \pm 2\sqrt{2}$

④  $x = -5, -7$

⑤  $x = 1 \pm \sqrt{5}$

⑥  $x = -2 \pm \frac{2\sqrt{7}}{7}$

3

5点×8

①  $x = 2, -4$

②  $x = 3, 1$

③  $x = -2 \pm 2\sqrt{3}$

④  $x = 3 \pm \sqrt{2}$

⑤  $x = 4 \pm \sqrt{3}$

⑥  $x = -6 \pm 2\sqrt{10}$

⑦  $x = \frac{3}{2} \pm \frac{\sqrt{17}}{2}$

⑧  $x = -\frac{5}{2} \pm \frac{\sqrt{17}}{2}$