

氏名 () 点数 _____

(1) $x^2 - 6x - 1 = 0$

$$x = \frac{-(-6) \pm \sqrt{(-6)^2 - 4 \times 1 \times (-1)}}{2 \times 1}$$

$$x = \frac{6 \pm \sqrt{40}}{2}$$

$$x = \frac{6 \pm 2\sqrt{10}}{2}$$

$$x = 3 \pm \sqrt{10}$$

(2) $x^2 + 5x + 3 = 0$

$$x = \frac{-5 \pm \sqrt{5^2 - 4 \times 1 \times 3}}{2 \times 1}$$

$$x = \frac{-5 \pm \sqrt{25 - 12}}{2}$$

$$x = \frac{-5 \pm \sqrt{13}}{2}$$

(3) $x^2 + 4x + 1 = 0$

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

$$x = \frac{-4 \pm \sqrt{12}}{2}$$

$$x = \frac{-4 \pm 2\sqrt{3}}{2}$$

$$x = -2 \pm \sqrt{3}$$

(4) $x^2 - 3x - 5 = 0$

$$x = \frac{-(-3) \pm \sqrt{(-3)^2 - 4 \times 1 \times (-5)}}{2}$$

$$x = \frac{3 \pm \sqrt{9 + 20}}{2}$$

$$x = \frac{3 \pm \sqrt{29}}{2}$$

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

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

$$x = \frac{3 \pm \sqrt{9 + 24}}{4}$$

$$x = \frac{3 \pm \sqrt{33}}{4}$$

(6) $3x^2 - 2x - 3 = 0$

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

$$x = \frac{2 \pm \sqrt{40}}{6}$$

$$x = \frac{2 \pm 2\sqrt{10}}{6}$$

$$x = \frac{1 \pm \sqrt{10}}{3}$$

(7) $x^2 + \frac{1}{3}x - 2 = 0$

$3x^2 + x - 6 = 0$

$$x = \frac{-1 \pm \sqrt{1^2 - 4 \times 3 \times (-6)}}{2 \times 3}$$

$$x = \frac{-1 \pm \sqrt{73}}{6}$$

(8) $x^2 + \frac{5}{2}x - 1 = 0$

$2x^2 + 5x - 2 = 0$

$$x = \frac{-5 \pm \sqrt{5^2 - 4 \times 2 \times (-2)}}{2 \times 2}$$

$$x = \frac{-5 \pm \sqrt{41}}{4}$$

(9) $3x^2 - 7x - 6 = 0$

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

$$x = \frac{7 \pm \sqrt{121}}{6}$$

$$x = \frac{7 \pm 11}{6}$$

$$x = \frac{18}{6}, -\frac{4}{6}$$

$$x = 3, -\frac{2}{3}$$

(10) $2x^2 - x - 3 = 0$

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

$$x = \frac{1 \pm \sqrt{25}}{4}$$

$$x = \frac{1 \pm 5}{4}$$

$$x = \frac{6}{4}, -\frac{4}{4}$$

$$x = \frac{3}{2}, -1$$