

2次方程式

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■ 次の方程式を解きなさい。

① $x^2 + 3x - 18 = 0$

⑧ $x^2 - 15x + 14 = 0$

⑮ $x^2 - 4x - 6 = 0$

② $9x^2 + 12x + 4 = 0$

⑨ $9x^2 + 4x - 1 = 0$

⑯ $x^2 + 4x + 4 = 0$

③ $4x^2 + 9x + 2 = 0$

⑩ $7x^2 + 5x - 2 = 0$

⑰ $9x^2 - 8x + 1 = 0$

④ $16x^2 + 24x + 9 = 0$

⑪ $x^2 + 17x + 72 = 0$

⑱ $4x^2 - x = 0$

⑤ $3x^2 + 4x - 7 = 0$

⑫ $x^2 + 16x + 63 = 0$

⑲ $25x^2 - 10x + 1 = 0$

⑥ $x^2 - 4x + 3 = 0$

⑬ $4x^2 - 4x + 1 = 0$

⑳ $3x^2 - 7x + 4 = 0$

⑦ $x^2 - 3x - 40 = 0$

⑭ $25x^2 - 4 = 0$

㉑ $x^2 - 6x + 9 = 0$

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■ 次の方程式を解きなさい。

① $x^2 + 3x - 18 = 0$

$$(x-3)(x+6) = 0$$

$$x = 3, -6$$

② $9x^2 + 12x + 4 = 0$

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

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

③ $4x^2 + 9x + 2 = 0$

$$x = \frac{-9 \pm 7}{8}$$

$$= \frac{1}{4}, -2$$

④ $16x^2 + 24x + 9 = 0$

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

$$x = -\frac{3}{4}$$

⑤ $3x^2 + 4x - 7 = 0$

$$x = \frac{-2 \pm 5}{3}$$

$$= 1, -\frac{7}{3}$$

⑥ $x^2 - 4x + 3 = 0$

$$(x-1)(x-3) = 0$$

$$x = 1, 3$$

⑦ $x^2 - 3x - 40 = 0$

$$(x+5)(x-8) = 0$$

$$x = -5, 8$$

⑧ $x^2 - 15x + 14 = 0$

$$(x-1)(x-14) = 0$$

$$x = 1, 14$$

⑨ $9x^2 + 4x - 1 = 0$

$$x = \frac{-2 \pm \sqrt{13}}{9}$$

⑩ $7x^2 + 5x - 2 = 0$

$$x = \frac{-5 \pm 9}{14}$$

$$= \frac{2}{7}, -1$$

⑪ $x^2 + 17x + 72 = 0$

$$(x+8)(x+9) = 0$$

$$x = -8, -9$$

⑫ $x^2 + 16x + 63 = 0$

$$(x+7)(x+9) = 0$$

$$x = -7, -9$$

⑬ $4x^2 - 4x + 1 = 0$

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

$$x = \frac{1}{2}$$

⑭ $25x^2 - 4 = 0$

$$(5x+2)(5x-2) = 0$$

$$x = \pm \frac{2}{5}$$

⑮ $x^2 - 4x - 6 = 0$

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

⑯ $x^2 + 4x + 4 = 0$

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

$$x = -2$$

⑰ $9x^2 - 8x + 1 = 0$

$$x = \frac{4 \pm \sqrt{7}}{9}$$

⑱ $4x^2 - x = 0$

$$x(4x-1) = 0$$

$$x = 0, \frac{1}{4}$$

⑲ $25x^2 - 10x + 1 = 0$

$$(5x-1)^2 = 0$$

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

⑳ $3x^2 - 7x + 4 = 0$

$$x = \frac{7 \pm 1}{6}$$

$$= \frac{4}{3}, 1$$

㉑ $x^2 - 6x + 9 = 0$

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

$$x = 3$$