

# 二次方程式 (因数分解・解の公式) 1

3年 組 番・氏名 \_\_\_\_\_

◆次の二次方程式を解け。

① $x^2 + 7x + 12 = 0$ $(x+3)(x+4) = 0$ $x = -3, -4$	② $x^2 - 3x - 10 = 0$ $(x-5)(x+2) = 0$ $x = 5, -2$
③ $x^2 - 6x + 9 = 0$ $(x-3)^2 = 0$ $x = 3$	④ $x^2 - 3x - 28 = 0$ $(x-7)(x+4) = 0$ $x = 7, -4$
⑤ $x^2 - 25 = 0$ $(x+5)(x-5) = 0$ $x = \pm 5$	⑥ $x^2 - x - 56 = 0$ $(x+7)(x-8) = 0$ $x = -7, 8$
⑦ $x^2 + 5x + 1 = 0$ $x = \frac{-5 \pm \sqrt{5^2 - 4 \times 1 \times 1}}{2 \times 1}$ $= \frac{-5 \pm \sqrt{25 - 4}}{2} = \frac{-5 \pm \sqrt{21}}{2}$	⑧ $2x^2 - 7x + 4 = 0$ $x = \frac{-(-7) \pm \sqrt{(-7)^2 - 4 \times 2 \times 4}}{2 \times 2}$ $= \frac{7 \pm \sqrt{49 - 32}}{4} = \frac{7 \pm \sqrt{17}}{4}$
⑨ $x^2 + 6x + 7 = 0$ $x = \frac{-6 \pm \sqrt{6^2 - 4 \times 1 \times 7}}{2 \times 1} = \frac{-6 \pm \sqrt{36 - 28}}{2}$ $= \frac{-6 \pm \sqrt{8}}{2} = \frac{-6 \pm 2\sqrt{2}}{2}$ $= -3 \pm \sqrt{2}$	⑩ $2x^2 - 5x - 3 = 0$ $x = \frac{-(-5) \pm \sqrt{(-5)^2 - 4 \times 2 \times (-3)}}{2 \times 2} = \frac{5 \pm \sqrt{25 + 24}}{4}$ $= \frac{5 \pm \sqrt{49}}{4} = \frac{5 \pm 7}{4}$ $x = \frac{12}{4}, -\frac{2}{4} \quad x = 3, -\frac{1}{2}$

< 年 月 日 >

# 二次方程式 (因数分解・解の公式) 2

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◆次の二次方程式を解け。

① $x^2 - 8x + 12 = 0$ $(x-2)(x-6) = 0$ $x = 2, 6$	② $x^2 - 49 = 0$ $(x+7)(x-7) = 0$ $x = \pm 7$
③ $x^2 - 5x - 24 = 0$ $(x-8)(x+3) = 0$ $x = 8, -3$	④ $x^2 - 12x + 36 = 0$ $(x-6)^2 = 0$ $x = 6$
⑤ $x^2 + 3x - 54 = 0$ $(x+9)(x-6) = 0$ $x = -9, 6$	⑥ $x^2 + 4x - 21 = 0$ $(x+7)(x-3) = 0$ $x = -7, 3$
⑦ $x^2 - 7x + 9 = 0$ $x = \frac{-(-7) \pm \sqrt{(-7)^2 - 4 \times 1 \times 9}}{2 \times 1}$ $= \frac{7 \pm \sqrt{49 - 36}}{2} = \frac{7 \pm \sqrt{13}}{2}$	⑧ $3x^2 + 5x - 1 = 0$ $x = \frac{-5 \pm \sqrt{5^2 - 4 \times 3 \times (-1)}}{2 \times 3}$ $= \frac{-5 \pm \sqrt{25 + 12}}{6} = \frac{-5 \pm \sqrt{37}}{6}$
⑨ $x^2 + 8x + 10 = 0$ $x = \frac{-8 \pm \sqrt{8^2 - 4 \times 1 \times 10}}{2 \times 1} = \frac{-8 \pm \sqrt{64 - 40}}{2}$ $= \frac{-8 \pm \sqrt{24}}{2} = \frac{-8 \pm 2\sqrt{6}}{2}$ $= -4 \pm \sqrt{6}$	⑩ $3x^2 + 7x + 2 = 0$ $x = \frac{-7 \pm \sqrt{7^2 - 4 \times 3 \times 2}}{2 \times 3} = \frac{-7 \pm \sqrt{49 - 24}}{6}$ $= \frac{-7 \pm \sqrt{25}}{6} = \frac{-7 \pm 5}{6}$ $x = -\frac{2}{6}, -\frac{12}{6} \quad x = -\frac{1}{3}, -2$

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