

問題番号  
09M0303\_1  
レベル  
☆☆☆

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中3 第3章 2次方程式  
③解の公式 No.1 解答

授業動画QR



1. 次の方程式を解の公式を使って解きなさい。

(1)  $x^2 - 5x + 6 = 0$

$$\frac{-(-5) \pm \sqrt{(-5)^2 - 4 \times (+1) \times (+6)}}{2 \times (+1)}$$

$$\frac{5 \pm \sqrt{25 - 24}}{2} = \frac{5 \pm 1}{2}$$

(2)  $x^2 + 5x - 14 = 0$

$$\frac{-(+5) \pm \sqrt{(+5)^2 - 4 \times (+1) \times (-14)}}{2 \times (+1)}$$

$$\frac{-5 \pm \sqrt{25 + 56}}{2} = \frac{-5 \pm 9}{2}$$

(3)  $x^2 - 11x + 24 = 0$

$$\frac{-(-11) \pm \sqrt{(-11)^2 - 4 \times (+1) \times (+24)}}{2 \times (+1)}$$

$$\frac{11 \pm \sqrt{121 - 96}}{2} = \frac{11 \pm 5}{2}$$

(4)  $x^2 - 8 = 0$

$$\frac{-(0) \pm \sqrt{(0)^2 - 4 \times (+1) \times (-8)}}{2 \times (+1)}$$

$$\frac{\pm \sqrt{32}}{2} = \frac{\pm 4\sqrt{2}}{2}$$

(5)  $x^2 - 18 = 0$

$$\frac{-(0) \pm \sqrt{(0)^2 - 4 \times (+1) \times (-18)}}{2 \times (+1)}$$

$$\frac{\pm \sqrt{72}}{2} = \frac{\pm 6\sqrt{2}}{2}$$

(6)  $x^2 - 72 = 0$

$$\frac{-(0) \pm \sqrt{(0)^2 - 4 \times (+1) \times (-72)}}{2 \times (+1)}$$

$$\frac{\pm \sqrt{288}}{2} = \frac{\pm 12\sqrt{2}}{2}$$

(1) $x = 2, x = 3$	(2) $x = -7, x = 2$	(3) $x = 3, x = 8$
(4) $x = \pm 2\sqrt{2}$	(5) $x = \pm 3\sqrt{2}$	(6) $x = \pm 6\sqrt{2}$

2. 次の方程式を解の公式を使って解きなさい。

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

$$\frac{-(-3) \pm \sqrt{(-3)^2 - 4 \times (+1) \times (-10)}}{2 \times (+1)}$$

$$\frac{3 \pm \sqrt{49}}{2} = \frac{3 \pm 7}{2}$$

(2)  $x^2 + 5x - 14 = 0$

$$\frac{-(+5) \pm \sqrt{(+5)^2 - 4 \times (+1) \times (-14)}}{2 \times (+1)}$$

$$\frac{-5 \pm \sqrt{81}}{2} = \frac{-5 \pm 9}{2}$$

(3)  $x^2 - 5x - 24 = 0$

$$\frac{-(-5) \pm \sqrt{(-5)^2 - 4 \times (+1) \times (-24)}}{2 \times (+1)}$$

$$\frac{5 \pm \sqrt{121}}{2} = \frac{5 \pm 11}{2}$$

(4)  $x^2 - 9x - 22 = 0$

$$\frac{-(-9) \pm \sqrt{(-9)^2 - 4 \times (+1) \times (-22)}}{2 \times (+1)}$$

$$\frac{9 \pm \sqrt{169}}{2} = \frac{9 \pm 13}{2}$$

(5)  $x^2 + 3x - 28 = 0$

$$\frac{-(+3) \pm \sqrt{(+3)^2 - 4 \times (+1) \times (-28)}}{2 \times (+1)}$$

$$\frac{-3 \pm \sqrt{121}}{2} = \frac{-3 \pm 11}{2}$$

(6)  $x^2 + 13x + 36 = 0$

$$\frac{-(+13) \pm \sqrt{(+13)^2 - 4 \times (+1) \times (+36)}}{2 \times (+1)}$$

$$\frac{-13 \pm \sqrt{25}}{2} = \frac{-13 \pm 5}{2}$$

(1) $x = -2, x = 5$	(2) $x = -7, x = 2$	(3) $x = -3, x = 8$
(4) $x = -2, x = 11$	(5) $x = -7, x = 4$	(6) $x = -9, x = -4$