

◇◇ <2 次方程式 総合問題> No. 1 ◇◇

・次の 2 次方程式を解きなさい。

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

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

$x+2=0 \quad x+3=0 \quad \downarrow \text{この書き方も OK!}$

$x=-2 \quad x=-3 \quad (x=-2, -3)$

(3) $x^2 + 6x + 9 = 0$

$(x+3)^2 = 0$

$x+3=0 \quad \diamond 2 \text{ 次方程式だけど}$

答えが 1 つだけ $x=-3$ という時もあるよ!

(5) $x^2 - 36 = 0$

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

$x+6=0 \quad x-6=0$

$x=-6 \quad x=6 \quad (x=\pm 6)$

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

$x(x-8) = 0$

$x=0 \quad x-8=0$

$x=0 \quad x=8$

(9) $x^2 - 8x + 16 = 0$

$(x-4)^2 = 0$

$x-4=0$

$x=4$

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

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

$x-1=0 \quad x-2=0$

$x=1 \quad x=2$

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

$(x+3)(x-8) = 0$

$x+3=0 \quad x-8=0$

$x=-3 \quad x=8$

(15) $x^2 + 2x - 24 = 0$

$(x-4)(x+6) = 0$

$x-4=0 \quad x+6=0$

$x=4 \quad x=-6$

(17) $9x^2 - 16 = 0$

$(3x+4)(3x-4) = 0$

$3x+4=0 \quad 3x-4=0$

$3x=-4 \quad 3x=4$

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

(2) $x^2 - 7x + 12 = 0$

$(x-3)(x-4) = 0$

$x-3=0 \quad x-4=0$

$x=3 \quad x=4$

(4) $x^2 - 14x + 49 = 0$

$(x-7)^2 = 0$

$x-7=0$

$x=7$

(6) $x^2 - x - 20 = 0$

$(x+4)(x-5) = 0$

$x+4=0 \quad x-5=0$

$x=-4 \quad x=5$

(8) $x^2 - 25 = 0$

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

$x+5=0 \quad x-5=0$

$x=-5 \quad x=5$

(10) $4x^2 - 10x = 0$

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

$2x=0 \quad 2x-5=0$

$x=0 \quad 2x=5 \quad x = \frac{5}{2}$

(12) $x^2 + 2x - 15 = 0$

$(x-3)(x+5) = 0$

$x-3=0 \quad x+5=0$

$x=3 \quad x=-5$

(14) $x^2 + 8x + 16 = 0$

$(x+4)^2 = 0$

$x+4=0$

$x=-4$

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

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

$x^2=0 \quad x-4=0$

$x=0 \quad x=4$

(18) $x^2 - 100 = 0$

$(x+10)(x-10) = 0$

$x+10=0 \quad x-10=0$

$x=-10 \quad x=10$