得点		演 習 問 題	実施日	月　　日	氏名	
点		二次方程式 ③				

【1】因数分解によって、次の方程式を解きなさい。

① $x^2 + 3x = 0$　　　　② $3x^2 + 12x = 0$

③ $x^2 + 6x + 8 = 0$　　　④ $x^2 - 9x + 20 = 0$

⑤ $x^2 - 2x - 3 = 0$　　　⑥ $x^2 - 2x - 8 = 0$

⑦ $x^2 + x - 30 = 0$　　　⑧ $x^2 - 3x - 28 = 0$

⑨ $x^2 + x - 12 = 0$　　　⑩ $x^2 - 10x - 200 = 0$

⑪ $x^2 - 36 = 0$　　　　⑫ $x^2 - 25 = 0$

⑬ $4x^2 - 9 = 0$　　　　⑭ $x^2 + 16x + 64 = 0$

⑮ $x^2 - 22x + 121 = 0$　　⑯ $4x^2 - 12x + 9 = 0$

⑰ $9x^2 - 30x + 25 = 0$　　⑱ $25x^2 + 10x + 1 = 0$

【3】次の方程式を解きなさい。

① $x^2 - 3 = 7x - 9$

② $x^2 - 4x = -16x - 27$

③ $(x-2)(x+4) = 7$

④ $(x+1)(x+7) = -5$

⑤ $\dfrac{x^2}{12} + \dfrac{x}{3} + \dfrac{1}{4} = 0$

⑥ $(x-3)(x-7) + 8 = 4$

⑦ $x + 40 = (x-2)^2$

⑧ $(x-3)^2 = 2(x-1) - 1$

⑨ $(2x-1)^2 = 2x(x+2) + 25$

⑩ $2(x^2 - 20) = (x+2)(x-10)$

得点		演習問題〔解答〕 二次方程式 ③	実施日	月　　日	氏名	

【1】因数分解によって、次の方程式を解きなさい。

① $x^2 + 3x = 0$

$$x(x+3) = 0$$
$$\underline{x = 0 , x = -3}$$

② $3x^2 + 12x = 0$

$$3x(x+4) = 0$$
$$\underline{x = 0 , x = -4}$$

③ $x^2 + 6x + 8 = 0$

$$(x+2)(x+4) = 0$$
$$\underline{x = -2 , x = -4}$$

④ $x^2 - 9x + 20 = 0$

$$(x-4)(x-5) = 0$$
$$\underline{x = 4 , x = 5}$$

⑤ $x^2 - 2x - 3 = 0$

$$(x-3)(x+1) = 0$$
$$\underline{x = 3 , x = -1}$$

⑥ $x^2 - 2x - 8 = 0$

$$(x-4)(x+2) = 0$$
$$\underline{x = 4 , x = -2}$$

⑦ $x^2 + x - 30 = 0$

$$(x+6)(x-5) = 0$$
$$\underline{x = 5 , x = -6}$$

⑧ $x^2 - 3x - 28 = 0$

$$(x+4)(x-7) = 0$$
$$\underline{x = 7 , x = -4}$$

⑨ $x^2 + x - 12 = 0$

$$(x+4)(x-3) = 0$$
$$\underline{x = 3 , x = -4}$$

⑩ $x^2 - 10x - 200 = 0$

$$(x-20)(x+10) = 0$$
$$\underline{x = 20 , x = -10}$$

⑪ $x^2 - 36 = 0$

$$(x+6)(x-6) = 0$$
$$\underline{x = \pm 6}$$

⑫ $x^2 - 25 = 0$

$$(x+5)(x-5) = 0$$
$$\underline{x = \pm 5}$$

⑬ $4x^2 - 9 = 0$

$$(2x+3)(2x-3) = 0$$
$$\underline{x = \pm \frac{3}{2}}$$

⑭ $x^2 + 16x + 64 = 0$

$$(x+8)^2 = 0$$
$$\underline{x = -8}$$

⑮ $x^2 - 22x + 121 = 0$

$$(x-11)^2 = 0$$
$$\underline{x = 11}$$

⑯ $4x^2 - 12x + 9 = 0$

$$(2x-3)^2 = 0$$
$$2x - 3 = 0$$
$$\underline{x = \frac{3}{2}}$$

⑰ $9x^2 - 30x + 25 = 0$

$$(3x-5)^2 = 0$$
$$\underline{x = \frac{5}{3}}$$

⑱ $25x^2 + 10x + 1 = 0$

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

【2】次の方程式を解きなさい。

① $x^2 - 3 = 7x - 9$

$$x^2 - 7x + 6 = 0$$
$$(x-1)(x-6) = 0$$
$$\underline{x = 1 , x = 6}$$

② $x^2 - 4x = -16x - 27$

$$x^2 + 12x + 27 = 0$$
$$(x+3)(x+9) = 0$$
$$\underline{x = -3 , x = -9}$$

③ $(x-2)(x+4) = 7$

$$x^2 + 2x - 8 = 7$$
$$x^2 + 2x - 15 = 0$$
$$(x+5)(x-3) = 0$$
$$\underline{x = 3 , x = -5}$$

④ $(x+1)(x+7) = -5$

$$x^2 + 8x + 7 = -5$$
$$x^2 + 8x + 12 = 0$$
$$(x+2)(x+6) = 0$$
$$\underline{x = -2 , x = -6}$$

⑤ $\dfrac{x^2}{12} + \dfrac{x}{3} + \dfrac{1}{4} = 0$

$$x^2 + 4x + 3 = 0$$
$$(x+1)(x+3) = 0$$
$$\underline{x = -1 , x = -3}$$

⑥ $(x-3)(x-7) + 8 = 4$

$$x^2 - 10x + 21 + 8 = 4$$
$$x^2 - 10x + 25 = 0$$
$$(x-5)^2 = 0$$
$$\underline{x = 5}$$

⑦ $x + 40 = (x-2)^2$

$$x + 40 = x^2 - 4x + 4$$
$$x^2 - 5x - 36 = 0$$
$$(x-9)(x+4) = 0$$
$$\underline{x = 9 , x = -4}$$

⑧ $(x-3)^2 = 2(x-1) - 1$

$$x^2 - 6x + 9 = 2x - 3$$
$$x^2 - 8x + 12 = 0$$
$$(x-2)(x-6) = 0$$
$$\underline{x = 2 , x = 6}$$

⑨ $(2x-1)^2 = 2x(x+2) + 25$

$$4x^2 - 4x + 1 = 2x^2 + 4x + 25$$
$$2x^2 - 8x - 24 = 0$$
$$x^2 - 4x - 12 = 0$$
$$(x-6)(x+2) = 0$$
$$\underline{x = 6 , x = -2}$$

⑩ $2(x^2 - 20) = (x+2)(x-10)$

$$2x^2 - 40 = x^2 - 8x - 20$$
$$x^2 + 8x - 20 = 0$$
$$(x+10)(x-2) = 0$$
$$\underline{x = 2 , x = -10}$$