平方根を利用した解法

NO.3　名前 [   ]　　　　/　　　点

1　次の2次方程式を解きなさい。

①　$2x^2 = 200$

②　$-6x^2 = -48$

③　$\dfrac{1}{4}x^2 = \dfrac{1}{9}$

④　$\dfrac{9}{4}x^2 = \dfrac{8}{9}$

⑤　$18x^2 - 12 = 0$

⑥　$-25x^2 + 4 = 0$

2　次の2次方程式を解きなさい。

①　$(x - 3)^2 = 64$

②　$(x - 2)^2 = \dfrac{4}{9}$

③　$5(x - 2)^2 - 40 = 0$

解答

1

① $2x^2 = 200$

$x^2 = 100$

$x = \pm 10$

② $-6x^2 = -48$

$x^2 = 8$

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

③ $\dfrac{1}{4}x^2 = \dfrac{1}{9}$

$x^2 = \dfrac{4}{9}$

$x = \pm\dfrac{2}{3}$

④ $\dfrac{9}{4}x^2 = \dfrac{8}{9}$

$x^2 = \dfrac{32}{81}$

$x = \pm\dfrac{4\sqrt{2}}{9}$

⑤ $18x^2 - 12 = 0$

$18x^2 = 12$

$x^2 = \dfrac{6}{9}$

$x = \pm\dfrac{\sqrt{6}}{3}$

⑥ $-25x^2 + 4 = 0$

$25x^2 = 4$

$x^2 = \dfrac{4}{25}$

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

2

① $(x - 3)^2 = 64$

$x - 3 = \pm 8$

$x - 3 = 4$　のとき　$x = 7$

$x - 3 = -4$　のとき　$x = -1$

② $(x - 2)^2 = \dfrac{4}{9}$

$x - 2 = \pm\dfrac{2}{3}$

$x - 2 = \dfrac{2}{3}$　のとき　$x = \dfrac{8}{3}$

$x - 2 = -\dfrac{2}{3}$　のとき　$x = \dfrac{4}{3}$

③ $5(x + 2)^2 = 40$

$(x + 2)^2 = 8$

$x + 2 = \pm\sqrt{8}$

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