1 次の2次方程式を解きなさい。

① $x^2 - 3 = 0$

② $6x^2 - 12 = 0$

③ $(x-6)^2 = 6$

④ $(x-5)^2 - 8 = 0$

⑤ $x^2 + 2x = 5$

⑥ $x^2 - 12x - 4 = 0$

1 次の２次方程式を解きなさい。

① $x^2 - 3 = 0$

$x = \pm\sqrt{3}$

$x^2 - 3 = 0$
$x^2 = 3$
$x = \pm\sqrt{3}$

② $6x^2 - 12 = 0$

$x = \pm\sqrt{2}$

$6x^2 - 12 = 0$
$x^2 - 2 = 0$
$x^2 = 2$
$x = \pm\sqrt{2}$

③ $(x-6)^2 = 6$

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

$(x-6)^2 = 6$
$x - 6 = \pm\sqrt{6}$
$x = 6 \pm\sqrt{6}$

④ $(x-5)^2 - 8 = 0$

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

$(x-5)^2 - 8 = 0$
$(x-5)^2 = 8$
$x - 5 = \pm\sqrt{8}$
$x = 5 \pm 2\sqrt{2}$

⑤ $x^2 + 2x = 5$

$x = -1 \pm\sqrt{6}$

$x^2 + 2x = 5$
$x^2 + 2x + 1^2 = 5 + 1^2$
$(x+1)^2 = 6$
$x + 1 = \pm\sqrt{6}$
$x = -1 \pm\sqrt{6}$

⑥ $x^2 - 12x - 4 = 0$

$x = 6 \pm 2\sqrt{10}$

$x^2 - 12x - 4 = 0$
$x^2 - 12x = 4$
$x^2 - 12x + 6^2 = 4 + 6^2$
$(x-6)^2 = 40$
$x - 6 = \pm\sqrt{40}$
$x = 6 \pm 2\sqrt{10}$