

Solve the quadratic function utilizing the most efficient method ONCE.

[~~Factoring~~, Completing the Square, Square Roots, Quadratic Formula]

1.)  $x^2 - 10x + 26 = 0$

$a$  is 1

$$x^2 - 10x + \underline{25} = -26 + \underline{25}$$

$$(x - 5)(x - 5) = -1$$

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

$$x - 5 = \pm \sqrt{-1}$$

$$x = 5 \pm \sqrt{-1}$$

$$x = 5 \pm i$$

3.)  $x^2 - 3x - 10 = 0$

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

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

$$x = 5$$

$$x = -2$$

2.)  $6x^2 - 8x + 3 = 0$

$a$   $b$   $c$

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a} = \frac{-(-8) \pm \sqrt{(-8)^2 - 4(6)(3)}}{2(6)}$$

$$x = \frac{8 \pm \sqrt{64 - 72}}{12} = \frac{8 \pm \sqrt{-8}}{12}$$

$$x = \frac{8 \pm \sqrt{-4 \cdot 2}}{12} = \frac{8 \pm 2i\sqrt{2}}{12}$$

$$x = \frac{8}{12} \pm \frac{2i\sqrt{2}}{12}$$

$$x = \frac{2}{3} \pm \frac{i\sqrt{2}}{6}$$

4.)  $2x^2 + 11 = -37$

$$\frac{2x^2}{2} = \frac{-48}{2}$$

$$\sqrt{x^2} = \sqrt{-24}$$

$$x = \pm \sqrt{-24}$$

$$x = \pm \sqrt{-4 \cdot 6}$$

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

$(\frac{6}{2})^2$   
 $(\frac{10}{2})^2$   
 $5^2$   
 $25$

## Homework

**Solve the quadratic function utilizing the most efficient method ONCE.**

[Factoring, Completing the Square, Square Roots, Quadratic Formula ]

1.)  $5x^2 + 33 = 3$

2.)  $x^2 - 8x + 35 = 0$

3.)  $2x^2 - 7x - 9 = 0$

4.)  $x^2 - 3x + 9 = 0$