



Quadratic Equations Practice

Name: _____ Class: _____ Date: _____

Solve the following quadratic equations using the appropriate method (factoring, quadratic formula). Show all your work.

Open Ended Questions

1. Solve the quadratic equation by factoring:

2. Solve the quadratic equation using the quadratic formula:

3. Solve the quadratic equation by factoring:

4. Solve the quadratic equation using the quadratic formula:

5. Solve the quadratic equation by factoring:

6. Solve the quadratic equation using the quadratic formula:

Multiple Choice Questions

1. Solve the quadratic equation:

- a)
- b)
- c)
- d)

2. Solve the quadratic equation using the quadratic formula:

- a)
- b)



c)

d)

3. Solve the quadratic equation by factoring:

a)

b)

c)

d)

4. Solve the quadratic equation using the quadratic formula:

a)

b)

c)

d)

5. Solve the quadratic equation by factoring:

a)

b)

c)

d)

6. Solve the quadratic equation using the quadratic formula:

a)

b)

c)

d)

Quadratic Equations Practice - Answers

Name: _____ Class: _____ Date: _____

Solve the following quadratic equations using the appropriate method (factoring, quadratic formula). Show all your work.

Open Ended Questions

1. Solve the quadratic equation by factoring:

To factor the quadratic equation, we look for two numbers that multiply to 6 and add to -5. These numbers are -2 and -3. Thus, we can write the equation as: Setting each factor to zero gives us the solutions: ... and ...

2. Solve the quadratic equation using the quadratic formula:

The quadratic formula is given by For the equation, we have ..., ..., and ... Plugging these values into the formula, we get: Simplifying inside the



square root: $\sqrt{16}$, which further simplifies to 4 . Thus, $x = 4$. This gives us two solutions: $x = 4$ and $x = -4$.

3. Solve the quadratic equation by factoring: $x^2 - 4x + 4 = 0$

To factor the quadratic equation $x^2 - 4x + 4 = 0$, we look for two numbers that multiply to 4 and add to -4. These numbers are -2 and -2. Thus, we can write the equation as: $(x - 2)(x - 2) = 0$. Setting each factor to zero gives us the solution: $x = 2$.

4. Solve the quadratic equation using the quadratic formula: $x^2 + 6x + 9 = 0$

The quadratic formula is given by $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$. For the equation $x^2 + 6x + 9 = 0$, we have $a = 1$, $b = 6$, and $c = 9$. Plugging these values into the formula, we get: $x = \frac{-6 \pm \sqrt{6^2 - 4(1)(9)}}{2(1)}$. Simplifying inside the square root: $\sqrt{36 - 36} = \sqrt{0} = 0$, which further simplifies to 0 . Thus, $x = \frac{-6 \pm 0}{2}$. This gives us the solution: $x = -3$.

5. Solve the quadratic equation by factoring: $x^2 - 3x - 4 = 0$

To factor the quadratic equation $x^2 - 3x - 4 = 0$, we look for two numbers that multiply to -4 and add to -3. These numbers are -4 and 1. Thus, we can write the equation as: $(x - 4)(x + 1) = 0$. Setting each factor to zero gives us the solutions: $x = 4$ and $x = -1$.

6. Solve the quadratic equation using the quadratic formula: $x^2 - 5x + 6 = 0$

The quadratic formula is given by $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$. For the equation $x^2 - 5x + 6 = 0$, we have $a = 1$, $b = -5$, and $c = 6$. Plugging these values into the formula, we get: $x = \frac{-(-5) \pm \sqrt{(-5)^2 - 4(1)(6)}}{2(1)}$. Simplifying inside the square root: $\sqrt{25 - 24} = \sqrt{1} = 1$, which further simplifies to 1 . Thus, $x = \frac{5 \pm 1}{2}$. This gives us two solutions: $x = 3$ and $x = 2$.

Multiple Choice Questions

1. Solve the quadratic equation: $x^2 - 7x + 12 = 0$

- a) $x = 3$ and $x = 4$
- b) $x = 4$ and $x = 3$**
- c) $x = 3$ and $x = 2$
- d) $x = 2$ and $x = 3$

2. Solve the quadratic equation using the quadratic formula: $x^2 + 8x + 16 = 0$

- a) $x = 4$
- b) $x = -4$**
- c) $x = 2$
- d) $x = -2$

3. Solve the quadratic equation by factoring: $x^2 - 9 = 0$

- a) $x = 3$ and $x = -3$**
- b) $x = 3$
- c) $x = -3$
- d) $x = 9$



4. Solve the quadratic equation using the quadratic formula:

a)

b)

c)

d)

5. Solve the quadratic equation by factoring:

a)

b)

c)

d)

6. Solve the quadratic equation using the quadratic formula:

a)

b)

c)

d)