Algebra I Lesson #1 Unit 12
Class Worksheet #1
For Worksheets #1 & #3

Solving Second Degree Equations With 1 Variable

Solving Second Degree Equations With 1 Variable

The Factoring Method

Solving Second Degree Equations With 1 Variable

The Factoring Method

1. $x^2 - 5x + 4 = 0$

Solving Second Degree Equations With 1 Variable

The Factoring Method

1. $x^2 - 5x + 4 = 0$

Step 1: Write the equation in <u>standard form</u>: $ax^2 + bx + c = 0$

Solving Second Degree Equations With 1 Variable

The Factoring Method

1. $x^2 - 5x + 4 = 0$

Step 1: Write the equation in <u>standard form</u>: $ax^2 + bx + c = 0$

This equation is already in standard form.

Solving Second Degree Equations With 1 Variable

The Factoring Method

1. $x^2 - 5x + 4 = 0$

Step 1: Write the equation in <u>standard form</u>: $ax^2 + bx + c = 0$

Step 2: Write the equation in 'factored form'.
(Factor the polynomial $ax^2 + bx + c$.)

Solving Second Degree Equations With 1 Variable

The Factoring Method

1. $x^2 - 5x + 4 = 0$

   $(x \quad)(x \quad) = 0$

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Solving Second Degree Equations With 1 Variable

The Factoring Method

1. $x^2 - 5x + 4 = 0$

$(x - 1)(x - 4) = 0$

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Solving Second Degree Equations With 1 Variable

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Step 3: Apply the 'zero property of multiplication.
If $pq = 0$, then $p = 0$ or $q = 0$.

Solving Second Degree Equations With 1 Variable

The Factoring Method

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Solving Second Degree Equations With 1 Variable

The Factoring Method

2. $x^2 + 7x - 18 = 0$

Step 1: Write the equation in <u>standard form</u>: $ax^2 + bx + c = 0$

Step 2: Write the equation in 'factored form'.
(Factor the polynomial $ax^2 + bx + c$.)

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If $pq = 0$, then $p = 0$ or $q = 0$.

Step 4: Solve each equation.

Solving Second Degree Equations With 1 Variable

The Factoring Method

2. $x^2 + 7x - 18 = 0$

$(x + 9)(x - 2) = 0$

Step 1: Write the equation in <u>standard form</u>: $ax^2 + bx + c = 0$

Step 2: Write the equation in 'factored form'.
(Factor the polynomial $ax^2 + bx + c$.)

Step 3: Apply the 'zero property of multiplication.
If $pq = 0$, then $p = 0$ or $q = 0$.

Step 4: Solve each equation.

Solving Second Degree Equations With 1 Variable

The Factoring Method

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$(x + 9)(x - 2) = 0$

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If pq = 0, then   p = 0 or q = 0.

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Solving Second Degree Equations With 1 Variable

The Factoring Method

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If $pq = 0$, then $p = 0$ or $q = 0$.

Step 4: Solve each equation.

Solving Second Degree Equations With 1 Variable

The Factoring Method

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Step 4: Solve each equation.

Solving Second Degree Equations With 1 Variable

The Factoring Method

2. $x^2 + 7x - 18 = 0$

$(x + 9)(x - 2) = 0$

$x + 9 = 0$ or

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Solving Second Degree Equations With 1 Variable

The Factoring Method

2. $x^2 + 7x - 18 = 0$

$(x + 9)(x - 2) = 0$

$x + 9 = 0$ or $x - 2 =$

Step 1: Write the equation in <u>standard form</u>: $ax^2 + bx + c = 0$

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(Factor the polynomial $ax^2 + bx + c$.)

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If $pq = 0$, then $p = 0$ or $q = 0$.

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Solving Second Degree Equations With 1 Variable

The Factoring Method

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$x + 9 = 0$ or $x - 2 = 0$

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If $pq = 0$, then $p = 0$ or $q = 0$.

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Solving Second Degree Equations With 1 Variable

The Factoring Method

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$(x + 9)(x - 2) = 0$

$x + 9 = 0$ or $x - 2 = 0$

Step 1: Write the equation in **standard form:** $ax^2 + bx + c = 0$

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If $pq = 0$, then $p = 0$ or $q = 0$.

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Solving Second Degree Equations With 1 Variable

The Factoring Method

2. $x^2 + 7x - 18 = 0$

$(x + 9)(x - 2) = 0$

$x + 9 = 0$ or $x - 2 = 0$

$x =$

Step 1: Write the equation in **standard form**: $ax^2 + bx + c = 0$

Step 2: Write the equation in 'factored form'.
(Factor the polynomial $ax^2 + bx + c$.)

Step 3: Apply the 'zero property of multiplication.
If $pq = 0$, then $p = 0$ or $q = 0$.

Step 4: Solve each equation.

Solving Second Degree Equations With 1 Variable

The Factoring Method

2. $x^2 + 7x - 18 = 0$

$(x + 9)(x - 2) = 0$

$x + 9 = 0$ or $x - 2 = 0$

$x = -9$

Step 1: Write the equation in <u>standard form</u>: $ax^2 + bx + c = 0$

Step 2: Write the equation in 'factored form'.
(Factor the polynomial $ax^2 + bx + c$.)

Step 3: Apply the 'zero property of multiplication.
If $pq = 0$, then $p = 0$ or $q = 0$.

Step 4: Solve each equation.

Solving Second Degree Equations With 1 Variable

The Factoring Method

2. $x^2 + 7x - 18 = 0$

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$x + 9 = 0$ or $x - 2 = 0$

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Solving Second Degree Equations With 1 Variable

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Solving Second Degree Equations With 1 Variable

The Factoring Method

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

Step 1: Write the equation in <u>standard form</u>: $ax^2 + bx + c = 0$

Step 2: Write the equation in 'factored form'.
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Solving Second Degree Equations With 1 Variable

The Factoring Method

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

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Solving Second Degree Equations With 1 Variable

The Factoring Method

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

$(7x - 2)(x - 4) = 0$

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$7x - 2 = 0 \quad \text{or} \quad x - 4 = 0$

$7x = 2$

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$7x - 2 = 0$ or $x - 4 = 0$

$7x = 2$

$x = 2/7$

Step 1: Write the equation in <u>standard form</u>: $ax^2 + bx + c = 0$

Step 2: Write the equation in 'factored form'.
(Factor the polynomial $ax^2 + bx + c$.)

Step 3: Apply the 'zero property of multiplication.
If $pq = 0$, then $p = 0$ or $q = 0$.

Step 4: Solve each equation.

Solving Second Degree Equations With 1 Variable

The Factoring Method

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

$(7x - 2)(x - 4) = 0$

$7x - 2 = 0$ or $x - 4 = 0$

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Step 4: Solve each equation.

Solving Second Degree Equations With 1 Variable

The Factoring Method

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Step 3: Apply the 'zero property of multiplication.
If $pq = 0$, then $p = 0$ or $q = 0$.

Step 4: Solve each equation.

Solving Second Degree Equations With 1 Variable

The Factoring Method

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

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Solving Second Degree Equations With 1 Variable

The Factoring Method

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Step 3: Apply the 'zero property of multiplication.
If $pq = 0$, then $p = 0$ or $q = 0$.

Step 4: Solve each equation.

Solving Second Degree Equations With 1 Variable

The Factoring Method

4. $5x^2 + 7x - 6 = 0$

Step 1: Write the equation in <u>standard form</u>: $ax^2 + bx + c = 0$

Step 2: Write the equation in 'factored form'.
(Factor the polynomial $ax^2 + bx + c$.)

Step 3: Apply the 'zero property of multiplication.
If $pq = 0$, then $p = 0$ or $q = 0$.

Step 4: Solve each equation.

Solving Second Degree Equations With 1 Variable

The Factoring Method

4. $5x^2 + 7x - 6 = 0$

Step 1: Write the equation in <u>standard form</u>: $ax^2 + bx + c = 0$

Step 2: Write the equation in 'factored form'.
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Step 3: Apply the 'zero property of multiplication.
If $pq = 0$, then $p = 0$ or $q = 0$.

Step 4: Solve each equation.

Solving Second Degree Equations With 1 Variable

The Factoring Method

4. $5x^2 + 7x - 6 = 0$

Step 1: Write the equation in <u>standard form</u>: $ax^2 + bx + c = 0$

Step 2: Write the equation in 'factored form'.
(Factor the polynomial $ax^2 + bx + c$.)

Step 3: Apply the 'zero property of multiplication.
If $pq = 0$, then $p = 0$ or $q = 0$.

Step 4: Solve each equation.

Solving Second Degree Equations With 1 Variable

The Factoring Method

4. $5x^2 + 7x - 6 = 0$

$(5x \qquad)(x \qquad) = 0$

Step 1: Write the equation in <u>standard form</u>: $ax^2 + bx + c = 0$

Step 2: Write the equation in 'factored form'.
(Factor the polynomial $ax^2 + bx + c$.)

Step 3: Apply the 'zero property of multiplication.
If $pq = 0$, then $p = 0$ or $q = 0$.

Step 4: Solve each equation.

Solving Second Degree Equations With 1 Variable

The Factoring Method

4. $5x^2 + 7x - 6 = 0$

$(5x - 3)(x + 2) = 0$

Step 1: Write the equation in <u>standard form</u>: $ax^2 + bx + c = 0$

Step 2: Write the equation in 'factored form'.
(Factor the polynomial $ax^2 + bx + c$.)

Step 3: Apply the 'zero property of multiplication.
If $pq = 0$, then $p = 0$ or $q = 0$.

Step 4: Solve each equation.

Solving Second Degree Equations With 1 Variable

The Factoring Method

4. $5x^2 + 7x - 6 = 0$

$(5x - 3)(x + 2) = 0$

Step 1: Write the equation in <u>standard form</u>: $ax^2 + bx + c = 0$

Step 2: Write the equation in 'factored form'.
(Factor the polynomial $ax^2 + bx + c$.)

Step 3: Apply the 'zero property of multiplication.
If pq = 0, then   p = 0 or q = 0.

Step 4: Solve each equation.

Solving Second Degree Equations With 1 Variable

The Factoring Method

4. $5x^2 + 7x - 6 = 0$

$(5x - 3)(x + 2) = 0$

$5x - 3 =$

Step 1: Write the equation in <u>standard form</u>: $ax^2 + bx + c = 0$

Step 2: Write the equation in 'factored form'.
(Factor the polynomial $ax^2 + bx + c$.)

Step 3: Apply the 'zero property of multiplication.
If $pq = 0$, then $p = 0$ or $q = 0$.

Step 4: Solve each equation.

Solving Second Degree Equations With 1 Variable

The Factoring Method

4. $5x^2 + 7x - 6 = 0$

$(5x - 3)(x + 2) = 0$

$5x - 3 = 0$

Step 1: Write the equation in <u>standard form</u>: $ax^2 + bx + c = 0$

Step 2: Write the equation in 'factored form'.
(Factor the polynomial $ax^2 + bx + c$.)

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If $pq = 0$, then $p = 0$ or $q = 0$.

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Solving Second Degree Equations With 1 Variable

The Factoring Method

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$(5x - 3)(x + 2) = 0$

$5x - 3 = 0$ or

Step 1: Write the equation in <u>standard form</u>: $ax^2 + bx + c = 0$

Step 2: Write the equation in 'factored form'.
(Factor the polynomial $ax^2 + bx + c$.)

Step 3: Apply the 'zero property of multiplication.
If $pq = 0$, then $p = 0$ or $q = 0$.

Step 4: Solve each equation.

Solving Second Degree Equations With 1 Variable

The Factoring Method

4. $5x^2 + 7x - 6 = 0$

$(5x - 3)(x + 2) = 0$

$5x - 3 = 0$ or $x + 2 =$

Step 1: Write the equation in <u>standard form</u>: $ax^2 + bx + c = 0$

Step 2: Write the equation in 'factored form'.
(Factor the polynomial $ax^2 + bx + c$.)

Step 3: Apply the 'zero property of multiplication.
If pq = 0, then   p = 0 or q = 0.

Step 4: Solve each equation.

Solving Second Degree Equations With 1 Variable

The Factoring Method

4. $5x^2 + 7x - 6 = 0$

$(5x - 3)(x + 2) = 0$

$5x - 3 = 0$ or $x + 2 = 0$

Step 1: Write the equation in <u>standard form</u>: $ax^2 + bx + c = 0$

Step 2: Write the equation in 'factored form'.
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If $pq = 0$, then $p = 0$ or $q = 0$.

Step 4: Solve each equation.

Solving Second Degree Equations With 1 Variable

The Factoring Method

4. $5x^2 + 7x - 6 = 0$

$(5x - 3)(x + 2) = 0$

$5x - 3 = 0$ or $x + 2 = 0$

Step 1: Write the equation in <u>standard form</u>: $ax^2 + bx + c = 0$

Step 2: Write the equation in 'factored form'.
(Factor the polynomial $ax^2 + bx + c$.)

Step 3: Apply the 'zero property of multiplication.
If $pq = 0$, then $p = 0$ or $q = 0$.

Step 4: Solve each equation.

Solving Second Degree Equations With 1 Variable

The Factoring Method

4. $5x^2 + 7x - 6 = 0$

$(5x - 3)(x + 2) = 0$

$5x - 3 = 0$ or $x + 2 = 0$

$5x =$

Step 1: Write the equation in **standard form:** $ax^2 + bx + c = 0$

Step 2: Write the equation in 'factored form'.
(Factor the polynomial $ax^2 + bx + c$.)

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If $pq = 0$, then $p = 0$ or $q = 0$.

Step 4: Solve each equation.

Solving Second Degree Equations With 1 Variable

The Factoring Method

4. $5x^2 + 7x - 6 = 0$

$(5x - 3)(x + 2) = 0$

$5x - 3 = 0$ or $x + 2 = 0$

$5x = 3$

Step 1: Write the equation in <u>standard form</u>: $ax^2 + bx + c = 0$

Step 2: Write the equation in 'factored form'.
(Factor the polynomial $ax^2 + bx + c$.)

Step 3: Apply the 'zero property of multiplication.
If $pq = 0$, then $p = 0$ or $q = 0$.

Step 4: Solve each equation.

Solving Second Degree Equations With 1 Variable

The Factoring Method

4. $5x^2 + 7x - 6 = 0$

$(5x - 3)(x + 2) = 0$

$5x - 3 = 0$ or $x + 2 = 0$

$5x = 3$

$x =$

Step 1: Write the equation in __standard form__: $ax^2 + bx + c = 0$

Step 2: Write the equation in 'factored form'.
(Factor the polynomial $ax^2 + bx + c$.)

Step 3: Apply the 'zero property of multiplication.
If $pq = 0$, then $p = 0$ or $q = 0$.

Step 4: Solve each equation.

Solving Second Degree Equations With 1 Variable

The Factoring Method

4. $5x^2 + 7x - 6 = 0$

$(5x - 3)(x + 2) = 0$

$5x - 3 = 0$ or $x + 2 = 0$

$5x = 3$

$x = 3/5$

Step 1: Write the equation in <u>standard form</u>: $ax^2 + bx + c = 0$

Step 2: Write the equation in 'factored form'.
(Factor the polynomial $ax^2 + bx + c$.)

Step 3: Apply the 'zero property of multiplication.
If $pq = 0$, then $p = 0$ or $q = 0$.

Step 4: Solve each equation.

Solving Second Degree Equations With 1 Variable

The Factoring Method

4. $5x^2 + 7x - 6 = 0$

$(5x - 3)(x + 2) = 0$

$5x - 3 = 0$ or $x + 2 = 0$

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Solving Second Degree Equations With 1 Variable

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If $pq = 0$, then $p = 0$ or $q = 0$.

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Solving Second Degree Equations With 1 Variable

The Factoring Method

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$(5x - 3)(x + 2) = 0$

$5x - 3 = 0$ or $x + 2 = 0$

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If $pq = 0$, then $p = 0$ or $q = 0$.

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Solving Second Degree Equations With 1 Variable

The Factoring Method

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If $pq = 0$, then $p = 0$ or $q = 0$.

Step 4: Solve each equation.

Solving Second Degree Equations With 1 Variable

The Factoring Method

5. $5x^2 + 10x = 0$

Step 1: Write the equation in <u>standard form</u>: $ax^2 + bx + c = 0$

Step 2: Write the equation in 'factored form'.
(Factor the polynomial $ax^2 + bx + c$.)

Step 3: Apply the 'zero property of multiplication.
If $pq = 0$, then $p = 0$ or $q = 0$.

Step 4: Solve each equation.

Solving Second Degree Equations With 1 Variable

The Factoring Method

5. $5x^2 + 10x = 0$

Step 1: Write the equation in <u>standard form</u>: $ax^2 + bx + c = 0$

Step 2: Write the equation in 'factored form'.
(Factor the polynomial $ax^2 + bx + c$.)

Step 3: Apply the 'zero property of multiplication.
If $pq = 0$, then $p = 0$ or $q = 0$.

Step 4: Solve each equation.

Solving Second Degree Equations With 1 Variable

The Factoring Method

5. $5x^2 + 10x = 0$

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Step 2: Write the equation in 'factored form'.
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If $pq = 0$, then $p = 0$ or $q = 0$.

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Solving Second Degree Equations With 1 Variable

The Factoring Method

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$5x($

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If $pq = 0$, then $p = 0$ or $q = 0$.

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Solving Second Degree Equations With 1 Variable

The Factoring Method

5. $5x^2 + 10x = 0$

$5x(x + 2) =$

Step 1: Write the equation in <u>standard form</u>: $ax^2 + bx + c = 0$

Step 2: Write the equation in 'factored form'.
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Solving Second Degree Equations With 1 Variable

The Factoring Method

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Solving Second Degree Equations With 1 Variable

The Factoring Method

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Solving Second Degree Equations With 1 Variable

The Factoring Method

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Solving Second Degree Equations With 1 Variable

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Solving Second Degree Equations With 1 Variable

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Solving Second Degree Equations With 1 Variable

The Factoring Method

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$5x(x + 2) = 0$

$5x = 0$ or $x + 2 = 0$

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Solving Second Degree Equations With 1 Variable

The Factoring Method

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Solving Second Degree Equations With 1 Variable

The Factoring Method

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$5x(x + 2) = 0$

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$x = 0$ or

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Solving Second Degree Equations With 1 Variable

The Factoring Method

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$5x(x + 2) = 0$

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Step 2: Write the equation in 'factored form'.
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Step 3: Apply the 'zero property of multiplication.
If $pq = 0$, then $p = 0$ or $q = 0$.

Step 4: Solve each equation.

Solving Second Degree Equations With 1 Variable

The Factoring Method

5. $5x^2 + 10x = 0$

$5x(x + 2) = 0$

$5x = 0$ or $x + 2 = 0$

$x = 0$ or $x = -2$

Step 1: Write the equation in <u>standard form</u>: $ax^2 + bx + c = 0$

Step 2: Write the equation in 'factored form'.
(Factor the polynomial $ax^2 + bx + c$.)

Step 3: Apply the 'zero property of multiplication.
If $pq = 0$, then $p = 0$ or $q = 0$.

Step 4: Solve each equation.

Solving Second Degree Equations With 1 Variable

The Factoring Method

5. $5x^2 + 10x = 0$

$5x(x + 2) = 0$

$5x = 0$ or $x + 2 = 0$

$x = 0$ or $x = -2$

Step 1: Write the equation in <u>standard form</u>: $ax^2 + bx + c = 0$

Step 2: Write the equation in 'factored form'.
(Factor the polynomial $ax^2 + bx + c$.)

Step 3: Apply the 'zero property of multiplication.
If $pq = 0$, then $p = 0$ or $q = 0$.

Step 4: Solve each equation.

Solving Second Degree Equations With 1 Variable

The Factoring Method

6. $12x^2 - 8x = 0$

Step 1: Write the equation in <u>standard form</u>: $ax^2 + bx + c = 0$

Step 2: Write the equation in 'factored form'.
(Factor the polynomial $ax^2 + bx + c$.)

Step 3: Apply the 'zero property of multiplication.
If $pq = 0$, then $p = 0$ or $q = 0$.

Step 4: Solve each equation.

Solving Second Degree Equations With 1 Variable

The Factoring Method

6. $12x^2 - 8x = 0$

Step 1: Write the equation in <u>standard form</u>: $ax^2 + bx + c = 0$

Step 2: Write the equation in 'factored form'.
(Factor the polynomial $ax^2 + bx + c$.)

Step 3: Apply the 'zero property of multiplication.
If $pq = 0$, then $p = 0$ or $q = 0$.

Step 4: Solve each equation.

The Factoring Method

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Step 1: Write the equation in <u>standard form</u>: $ax^2 + bx + c = 0$

Step 2: Write the equation in 'factored form'.
(Factor the polynomial $ax^2 + bx + c$.)

Step 3: Apply the 'zero property of multiplication.
If pq = 0, then   p = 0 or q = 0.

Step 4: Solve each equation.

Solving Second Degree Equations With 1 Variable

The Factoring Method

6. $12x^2 - 8x = 0$

   $4x($

Step 1: Write the equation in <u>standard form</u>: $ax^2 + bx + c = 0$

Step 2: Write the equation in 'factored form'.
(Factor the polynomial $ax^2 + bx + c$.)

Step 3: Apply the 'zero property of multiplication.
If $pq = 0$, then $p = 0$ or $q = 0$.

Step 4: Solve each equation.

Solving Second Degree Equations With 1 Variable

The Factoring Method

6. $12x^2 - 8x = 0$

$4x(3x - 2) =$

Step 1: Write the equation in <u>standard form</u>: $ax^2 + bx + c = 0$

Step 2: Write the equation in 'factored form'.
(Factor the polynomial $ax^2 + bx + c$.)

Step 3: Apply the 'zero property of multiplication.
If $pq = 0$, then $p = 0$ or $q = 0$.

Step 4: Solve each equation.

Solving Second Degree Equations With 1 Variable

The Factoring Method

6. $12x^2 - 8x = 0$

   $4x(3x - 2) = 0$

Step 1: Write the equation in <u>standard form</u>: $ax^2 + bx + c = 0$

Step 2: Write the equation in 'factored form'.
(Factor the polynomial $ax^2 + bx + c$.)

Step 3: Apply the 'zero property of multiplication.
If $pq = 0$, then $p = 0$ or $q = 0$.

Step 4: Solve each equation.

Solving Second Degree Equations With 1 Variable

The Factoring Method

6. $12x^2 - 8x = 0$

   $4x(3x - 2) = 0$

Step 1: Write the equation in <u>standard form</u>: $ax^2 + bx + c = 0$

Step 2: Write the equation in 'factored form'.
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If pq = 0, then   p = 0 or q = 0.

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Solving Second Degree Equations With 1 Variable

The Factoring Method

6. $12x^2 - 8x = 0$

$4x(3x - 2) = 0$

$4x =$

Step 1: Write the equation in <u>standard form</u>: $ax^2 + bx + c = 0$

Step 2: Write the equation in 'factored form'.
(Factor the polynomial $ax^2 + bx + c$.)

Step 3: Apply the 'zero property of multiplication.
If pq = 0, then   p = 0 or q = 0.

Step 4: Solve each equation.

Solving Second Degree Equations With 1 Variable

The Factoring Method

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Solving Second Degree Equations With 1 Variable

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Solving Second Degree Equations With 1 Variable

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Solving Second Degree Equations With 1 Variable

The Factoring Method

6. $12x^2 - 8x = 0$

$4x(3x - 2) = 0$

$4x = 0$ or $3x - 2 = 0$

$3x = 2$

$x = 0$ or $x = 2/3$

Step 1: Write the equation in <u>standard form</u>: $ax^2 + bx + c = 0$

Step 2: Write the equation in 'factored form'.
(Factor the polynomial $ax^2 + bx + c$.)

Step 3: Apply the 'zero property of multiplication.
If $pq = 0$, then $p = 0$ or $q = 0$.

Step 4: Solve each equation.

Solving Second Degree Equations With 1 Variable

The Factoring Method

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Solving Second Degree Equations With 1 Variable

The Factoring Method

7. $x^2 - 4 = 0$

Step 1: Write the equation in <u>standard form</u>: $ax^2 + bx + c = 0$

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(Factor the polynomial $ax^2 + bx + c$.)

Step 3: Apply the 'zero property of multiplication.
If $pq = 0$, then $p = 0$ or $q = 0$.

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Solving Second Degree Equations With 1 Variable

The Factoring Method

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Solving Second Degree Equations With 1 Variable

The Factoring Method

7. $x^2 - 4 = 0$

$(x \quad)(x \quad) = 0$

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Step 3: Apply the 'zero property of multiplication.
If $pq = 0$, then $p = 0$ or $q = 0$.

Step 4: Solve each equation.

Solving Second Degree Equations With 1 Variable

The Factoring Method

7. $x^2 - 4 = 0$

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

Step 1: Write the equation in <u>standard form</u>: $ax^2 + bx + c = 0$

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(Factor the polynomial $ax^2 + bx + c$.)

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If $pq = 0$, then $p = 0$ or $q = 0$.

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Step 4: Solve each equation.

Solving Second Degree Equations With 1 Variable

The Factoring Method

7. $x^2 - 4 = 0$

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

$x + 2 = 0$ or $x - 2 = 0$

$x = -2$

Step 1: Write the equation in <u>standard form</u>: $ax^2 + bx + c = 0$

Step 2: Write the equation in 'factored form'.
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Step 3: Apply the 'zero property of multiplication.
If $pq = 0$, then $p = 0$ or $q = 0$.

Step 4: Solve each equation.

Solving Second Degree Equations With 1 Variable

The Factoring Method

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Solving Second Degree Equations With 1 Variable

The Factoring Method

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Solving Second Degree Equations With 1 Variable

The Factoring Method

8. $100x^2 - 49 = 0$

Step 1: Write the equation in <u>standard form</u>: $ax^2 + bx + c = 0$

Step 2: Write the equation in 'factored form'.
(Factor the polynomial $ax^2 + bx + c$.)

Step 3: Apply the 'zero property of multiplication.
If $pq = 0$, then $p = 0$ or $q = 0$.

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Solving Second Degree Equations With 1 Variable

The Factoring Method

8. $100x^2 - 49 = 0$

$(10x \qquad)(10x \qquad) = 0$

Step 1: Write the equation in <u>standard form</u>: $ax^2 + bx + c = 0$

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If $pq = 0$, then $p = 0$ or $q = 0$.

Step 4: Solve each equation.

Solving Second Degree Equations With 1 Variable

The Factoring Method

8. $100x^2 - 49 = 0$

$(10x + 7)(10x - 7) = 0$

Step 1: Write the equation in <u>standard form</u>: $ax^2 + bx + c = 0$

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Solving Second Degree Equations With 1 Variable

The Factoring Method

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Solving Second Degree Equations With 1 Variable

The Factoring Method

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$10x + 7 = 0$ or $10x - 7 = 0$

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Step 3: Apply the 'zero property of multiplication.
If $pq = 0$, then $p = 0$ or $q = 0$.

Step 4: Solve each equation.

Solving Second Degree Equations With 1 Variable

The Factoring Method

8. $100x^2 - 49 = 0$

$(10x + 7)(10x - 7) = 0$

$10x + 7 = 0$ or $10x - 7 = 0$

$10x = -7$

Step 1: Write the equation in <u>standard form</u>: $ax^2 + bx + c = 0$

Step 2: Write the equation in 'factored form'.
(Factor the polynomial $ax^2 + bx + c$.)

Step 3: Apply the 'zero property of multiplication.
If $pq = 0$, then $p = 0$ or $q = 0$.

Step 4: Solve each equation.

Solving Second Degree Equations With 1 Variable

The Factoring Method

8. $100x^2 - 49 = 0$

$(10x + 7)(10x - 7) = 0$

$10x + 7 = 0$ or $10x - 7 = 0$

$10x = -7$

$x =$

Step 1: Write the equation in <u>standard form</u>: $ax^2 + bx + c = 0$

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Step 3: Apply the 'zero property of multiplication.
If $pq = 0$, then $p = 0$ or $q = 0$.

Step 4: Solve each equation.

Solving Second Degree Equations With 1 Variable

The Factoring Method

8. $100x^2 - 49 = 0$

$(10x + 7)(10x - 7) = 0$

$10x + 7 = 0$ or $10x - 7 = 0$

$10x = -7$

$x = -7/10$

Step 1: Write the equation in <u>standard form</u>: $ax^2 + bx + c = 0$

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Solving Second Degree Equations With 1 Variable

The Factoring Method

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$(10x + 7)(10x - 7) = 0$

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Solving Second Degree Equations With 1 Variable

The Factoring Method

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$10x + 7 = 0$ or $10x - 7 = 0$

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The Factoring Method

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$(10x + 7)(10x - 7) = 0$

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$10x = -7$ $10x = 7$

$x = -7/10$ or $x =$

Step 1: Write the equation in <u>standard form</u>: $ax^2 + bx + c = 0$

Step 2: Write the equation in 'factored form'.
(Factor the polynomial $ax^2 + bx + c$.)

Step 3: Apply the 'zero property of multiplication.
If $pq = 0$, then $p = 0$ or $q = 0$.

Step 4: Solve each equation.

Solving Second Degree Equations With 1 Variable

The Factoring Method

8. $100x^2 - 49 = 0$

$(10x + 7)(10x - 7) = 0$

$10x + 7 = 0$ or $10x - 7 = 0$

$10x = -7$ $10x = 7$

$x = -7/10$ or $x = 7/10$

Step 1: Write the equation in <u>standard form</u>: $ax^2 + bx + c = 0$

Step 2: Write the equation in 'factored form'.
(Factor the polynomial $ax^2 + bx + c$.)

Step 3: Apply the 'zero property of multiplication.
If pq = 0, then   p = 0 or q = 0.

Step 4: Solve each equation.

Solving Second Degree Equations With 1 Variable

The Factoring Method

8. $100x^2 - 49 = 0$

$(10x + 7)(10x - 7) = 0$

$10x + 7 = 0$ or $10x - 7 = 0$

$10x = -7$ $10x = 7$

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Step 1: Write the equation in <u>standard form</u>: $ax^2 + bx + c = 0$

Step 2: Write the equation in 'factored form'.
(Factor the polynomial $ax^2 + bx + c$.)

Step 3: Apply the 'zero property of multiplication.
If $pq = 0$, then $p = 0$ or $q = 0$.

Step 4: Solve each equation.

Solving Second Degree Equations With 1 Variable

The Factoring Method

9. $x^2 - 12x + 36 = 0$

Step 1: Write the equation in <u>standard form</u>: $ax^2 + bx + c = 0$

Step 2: Write the equation in 'factored form'.
(Factor the polynomial $ax^2 + bx + c$.)

Step 3: Apply the 'zero property of multiplication.
If $pq = 0$, then $p = 0$ or $q = 0$.

Step 4: Solve each equation.

Solving Second Degree Equations With 1 Variable

The Factoring Method

9. $x^2 - 12x + 36 = 0$

Step 1: Write the equation in <u>standard form</u>: $ax^2 + bx + c = 0$

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If $pq = 0$, then $p = 0$ or $q = 0$.

Step 4: Solve each equation.

Solving Second Degree Equations With 1 Variable

The Factoring Method

9. $x^2 - 12x + 36 = 0$

Step 1: Write the equation in **standard form**: $ax^2 + bx + c = 0$

Step 2: Write the equation in 'factored form'.
(Factor the polynomial $ax^2 + bx + c$.)

Step 3: Apply the 'zero property of multiplication.
If $pq = 0$, then $p = 0$ or $q = 0$.

Step 4: Solve each equation.

Solving Second Degree Equations With 1 Variable

The Factoring Method

9. $x^2 - 12x + 36 = 0$

$(x \quad)(x \quad) = 0$

Step 1: Write the equation in <u>standard form</u>: $ax^2 + bx + c = 0$

Step 2: Write the equation in 'factored form'.
(Factor the polynomial $ax^2 + bx + c$.)

Step 3: Apply the 'zero property of multiplication.
If $pq = 0$, then $p = 0$ or $q = 0$.

Step 4: Solve each equation.

Solving Second Degree Equations With 1 Variable

The Factoring Method

9. $x^2 - 12x + 36 = 0$

$(x - 6)(x - 6) = 0$

Step 1: Write the equation in <u>standard form</u>: $ax^2 + bx + c = 0$

Step 2: Write the equation in 'factored form'.
(Factor the polynomial $ax^2 + bx + c$.)

Step 3: Apply the 'zero property of multiplication.
If $pq = 0$, then $p = 0$ or $q = 0$.

Step 4: Solve each equation.

Solving Second Degree Equations With 1 Variable

The Factoring Method

9. $x^2 - 12x + 36 = 0$

$(x - 6)(x - 6) = 0$

Step 1: Write the equation in <u>standard form</u>: $ax^2 + bx + c = 0$

Step 2: Write the equation in 'factored form'.
(Factor the polynomial $ax^2 + bx + c$.)

Step 3: Apply the 'zero property of multiplication.
If pq = 0, then   p = 0 or q = 0.

Step 4: Solve each equation.

Solving Second Degree Equations With 1 Variable

The Factoring Method

9. $x^2 - 12x + 36 = 0$

$(x - 6)(x - 6) = 0$

$x - 6 =$

Step 1: Write the equation in <u>standard form</u>: $ax^2 + bx + c = 0$

Step 2: Write the equation in 'factored form'.
(Factor the polynomial $ax^2 + bx + c$.)

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Solving Second Degree Equations With 1 Variable

The Factoring Method

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$(x - 6)(x - 6) = 0$

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Step 1: Write the equation in <u>standard form</u>: $ax^2 + bx + c = 0$

Step 2: Write the equation in 'factored form'.
(Factor the polynomial $ax^2 + bx + c$.)

Step 3: Apply the 'zero property of multiplication.
If $pq = 0$, then $p = 0$ or $q = 0$.

Step 4: Solve each equation.

Solving Second Degree Equations With 1 Variable

The Factoring Method

9. $x^2 - 12x + 36 = 0$

$(x - 6)(x - 6) = 0$

$x - 6 = 0$ or

Step 1: Write the equation in <u>standard form</u>: $ax^2 + bx + c = 0$

Step 2: Write the equation in 'factored form'.
(Factor the polynomial $ax^2 + bx + c$.)

Step 3: Apply the 'zero property of multiplication.
If $pq = 0$, then $p = 0$ or $q = 0$.

Step 4: Solve each equation.

Solving Second Degree Equations With 1 Variable

The Factoring Method

9. $x^2 - 12x + 36 = 0$

$(x - 6)(x - 6) = 0$

$x - 6 = 0$ or $x - 6 =$

Step 1: Write the equation in <u>standard form</u>: $ax^2 + bx + c = 0$

Step 2: Write the equation in 'factored form'.
(Factor the polynomial $ax^2 + bx + c$.)

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If pq = 0, then   p = 0 or q = 0.

Step 4: Solve each equation.

Solving Second Degree Equations With 1 Variable

The Factoring Method

9. $x^2 - 12x + 36 = 0$

$(x - 6)(x - 6) = 0$

$x - 6 = 0$ or $x - 6 = 0$

Step 1: Write the equation in <u>standard form</u>: $ax^2 + bx + c = 0$

Step 2: Write the equation in 'factored form'.
(Factor the polynomial $ax^2 + bx + c$.)

Step 3: Apply the 'zero property of multiplication.
If pq = 0, then   p = 0 or q = 0.

Step 4: Solve each equation.

Solving Second Degree Equations With 1 Variable

The Factoring Method

9. $x^2 - 12x + 36 = 0$

$(x - 6)(x - 6) = 0$

$x - 6 = 0$ or $x - 6 = 0$

Don't write the same equation twice.

Step 1: Write the equation in <u>standard form</u>: $ax^2 + bx + c = 0$

Step 2: Write the equation in 'factored form'.
(Factor the polynomial $ax^2 + bx + c$.)

Step 3: Apply the 'zero property of multiplication.
If pq = 0, then   p = 0 or q = 0.

Step 4: Solve each equation.

Solving Second Degree Equations With 1 Variable

The Factoring Method

9. $x^2 - 12x + 36 = 0$

$(x - 6)(x - 6) = 0$

$x - 6 = 0$

Step 1: Write the equation in <u>standard form</u>: $ax^2 + bx + c = 0$

Step 2: Write the equation in 'factored form'.
(Factor the polynomial $ax^2 + bx + c$.)

Step 3: Apply the 'zero property of multiplication.
If $pq = 0$, then $p = 0$ or $q = 0$.

Step 4: Solve each equation.

Solving Second Degree Equations With 1 Variable

The Factoring Method

9. $x^2 - 12x + 36 = 0$

$(x - 6)(x - 6) = 0$

$x - 6 = 0$

Step 1: Write the equation in <u>standard form</u>: $ax^2 + bx + c = 0$

Step 2: Write the equation in 'factored form'.
(Factor the polynomial $ax^2 + bx + c$.)

Step 3: Apply the 'zero property of multiplication.
If $pq = 0$, then $p = 0$ or $q = 0$.

Step 4: Solve each equation.

Solving Second Degree Equations With 1 Variable

The Factoring Method

9. $x^2 - 12x + 36 = 0$

$(x - 6)(x - 6) = 0$

$x - 6 = 0$

$x =$

Step 1: Write the equation in <u>standard form</u>: $ax^2 + bx + c = 0$

Step 2: Write the equation in 'factored form'.
(Factor the polynomial $ax^2 + bx + c$.)

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Solving Second Degree Equations With 1 Variable

The Factoring Method

9. $x^2 - 12x + 36 = 0$

$(x - 6)(x - 6) = 0$

$x - 6 = 0$

$x = 6$

Step 1: Write the equation in <u>standard form</u>: $ax^2 + bx + c = 0$

Step 2: Write the equation in 'factored form'.
(Factor the polynomial $ax^2 + bx + c$.)

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Solving Second Degree Equations With 1 Variable

The Factoring Method

9. $x^2 - 12x + 36 = 0$

$(x - 6)(x - 6) = 0$

$x - 6 = 0$

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Step 1: Write the equation in <u>standard form</u>: $ax^2 + bx + c = 0$

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(Factor the polynomial $ax^2 + bx + c$.)

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If $pq = 0$, then $p = 0$ or $q = 0$.

Step 4: Solve each equation.

Solving Second Degree Equations With 1 Variable

The Factoring Method

10. $25x^2 + 30x + 9 = 0$

Step 1: Write the equation in <u>standard form</u>: $ax^2 + bx + c = 0$

Step 2: Write the equation in 'factored form'.
(Factor the polynomial $ax^2 + bx + c$.)

Step 3: Apply the 'zero property of multiplication.
If $pq = 0$, then $p = 0$ or $q = 0$.

Step 4: Solve each equation.

Solving Second Degree Equations With 1 Variable

The Factoring Method

10. $25x^2 + 30x + 9 = 0$

Step 1: Write the equation in <u>standard form</u>: $ax^2 + bx + c = 0$

Step 2: Write the equation in 'factored form'.
(Factor the polynomial $ax^2 + bx + c$.)

Step 3: Apply the 'zero property of multiplication.
If $pq = 0$, then $p = 0$ or $q = 0$.

Step 4: Solve each equation.

The Factoring Method

10. $25x^2 + 30x + 9 = 0$

Step 1: Write the equation in <u>standard form</u>: $ax^2 + bx + c = 0$

Step 2: Write the equation in 'factored form'.
(Factor the polynomial $ax^2 + bx + c$.)

Step 3: Apply the 'zero property of multiplication.
If $pq = 0$, then $p = 0$ or $q = 0$.

Step 4: Solve each equation.

Solving Second Degree Equations With 1 Variable

The Factoring Method

10. $25x^2 + 30x + 9 = 0$

$(5x \quad)(5x \quad) = 0$

Step 1: Write the equation in <u>standard form</u>: $ax^2 + bx + c = 0$

Step 2: Write the equation in 'factored form'.
(Factor the polynomial $ax^2 + bx + c$.)

Step 3: Apply the 'zero property of multiplication.
If $pq = 0$, then $p = 0$ or $q = 0$.

Step 4: Solve each equation.

Solving Second Degree Equations With 1 Variable

The Factoring Method

10. $25x^2 + 30x + 9 = 0$

$(5x + 3)(5x + 3) = 0$

Step 1: Write the equation in <u>standard form</u>: $ax^2 + bx + c = 0$

Step 2: Write the equation in 'factored form'.
(Factor the polynomial $ax^2 + bx + c$.)

Step 3: Apply the 'zero property of multiplication.
If pq = 0, then   p = 0 or q = 0.

Step 4: Solve each equation.

The Factoring Method

10. $25x^2 + 30x + 9 = 0$

$(5x + 3)(5x + 3) = 0$

Step 1: Write the equation in <u>**standard form**</u>: $ax^2 + bx + c = 0$

Step 2: Write the equation in 'factored form'.
(Factor the polynomial $ax^2 + bx + c$.)

Step 3: Apply the 'zero property of multiplication.
If pq = 0, then   p = 0 or q = 0.

Step 4: Solve each equation.

Solving Second Degree Equations With 1 Variable

The Factoring Method

10. $25x^2 + 30x + 9 = 0$

$(5x + 3)(5x + 3) = 0$

$5x + 3 =$

Step 1: Write the equation in <u>standard form</u>: $ax^2 + bx + c = 0$

Step 2: Write the equation in 'factored form'.
(Factor the polynomial $ax^2 + bx + c$.)

Step 3: Apply the 'zero property of multiplication.
If pq = 0, then   p = 0 or q = 0.

Step 4: Solve each equation.

Solving Second Degree Equations With 1 Variable

The Factoring Method

10. $25x^2 + 30x + 9 = 0$

$(5x + 3)(5x + 3) = 0$

$5x + 3 = 0$

Step 1: Write the equation in <u>standard form</u>: $ax^2 + bx + c = 0$

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Solving Second Degree Equations With 1 Variable

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If $pq = 0$, then $p = 0$ or $q = 0$.

Step 4: Solve each equation.

Solving Second Degree Equations With 1 Variable

The Factoring Method

10. $25x^2 + 30x + 9 = 0$

$(5x + 3)(5x + 3) = 0$

$5x + 3 = 0$

$5x =$

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(Factor the polynomial $ax^2 + bx + c$.)

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If $pq = 0$, then $p = 0$ or $q = 0$.

Step 4: Solve each equation.

Solving Second Degree Equations With 1 Variable

The Factoring Method

10. $25x^2 + 30x + 9 = 0$

$(5x + 3)(5x + 3) = 0$

$5x + 3 = 0$

$5x = -3$

Step 1: Write the equation in <u>standard form</u>: $ax^2 + bx + c = 0$

Step 2: Write the equation in 'factored form'.
(Factor the polynomial $ax^2 + bx + c$.)

Step 3: Apply the 'zero property of multiplication.
If $pq = 0$, then $p = 0$ or $q = 0$.

Step 4: Solve each equation.

The Factoring Method

10. $25x^2 + 30x + 9 = 0$

$(5x + 3)(5x + 3) = 0$

$5x + 3 = 0$

$5x = -3$

$x =$

Step 1: Write the equation in <u>standard form</u>: $ax^2 + bx + c = 0$

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(Factor the polynomial $ax^2 + bx + c$.)

Step 3: Apply the 'zero property of multiplication.
If $pq = 0$, then $p = 0$ or $q = 0$.

Step 4: Solve each equation.

Solving Second Degree Equations With 1 Variable

The Factoring Method

10. $25x^2 + 30x + 9 = 0$

$(5x + 3)(5x + 3) = 0$

$5x + 3 = 0$

$5x = -3$

$x = -3/5$

Step 1: Write the equation in <u>standard form</u>: $ax^2 + bx + c = 0$

Step 2: Write the equation in 'factored form'.
(Factor the polynomial $ax^2 + bx + c$.)

Step 3: Apply the 'zero property of multiplication.
If $pq = 0$, then $p = 0$ or $q = 0$.

Step 4: Solve each equation.

Solving Second Degree Equations With 1 Variable

The Factoring Method

10. $25x^2 + 30x + 9 = 0$

$(5x + 3)(5x + 3) = 0$

$5x + 3 = 0$

$5x = -3$

$x = -3/5$

Step 1: Write the equation in <u>standard form</u>: $ax^2 + bx + c = 0$

Step 2: Write the equation in 'factored form'.
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Solving Second Degree Equations With 1 Variable

The Factoring Method

10. $25x^2 + 30x + 9 = 0$

$(5x + 3)(5x + 3) = 0$

$5x + 3 = 0$

$5x = -3$

Good luck on your homework !!

Step 1: Write the equation in <u>standard form</u>: $ax^2 + bx + c = 0$

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