

Name: _____ Period: _____ Date: _____

Factoring to Solve Quadratic Equations Assignment

Solve each equation given below.

1. $x(x - 3) = 0$

2. $y(3y + 12) = 0$

3. $(x - 1)(x - 12) = 0$

4. $3z(4z - 6) = 0$

5. $(3a + 18)(5a - 25) = 0$

6. $(8t + 4)(3t + 6) = 0$

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Factoring to Solve Quadratic Equations Assignment

Solve each equation by factoring.

1. $x^2 - 5x + 6 = 0$

2. $x^2 + 11x + 28 = 0$

3. $s^2 + 9s = -20$

4. $6z^2 + 13z + 6 = 0$

Factoring to Solve Quadratic Equations Assignment

Solve each equation given below.

1. $x(x - 3) = 0$

By zero-product property:

$x = 0 \quad \text{or} \quad x - 3 = 0$

$x = 0 \quad ; \quad x = 3$

2. $y(3y + 12) = 0$

By zero-product property:

$y = 0 \quad \text{or} \quad 3y + 12 = 0$

$y = 0 \quad ; \quad 3y = -12$

$y = 0 \quad ; \quad y = -4$

3. $(x - 1)(x - 12) = 0$

By zero-product property:

$x - 1 = 0 \quad \text{or} \quad x - 12 = 0$

$x = 1 \quad ; \quad x = 12$

4. $3z(4z - 6) = 0$

By zero-product property:

$3z = 0 \quad \text{or} \quad 4z - 6 = 0$

$z = 0 \quad ; \quad 4z = 6$

$y = 0 \quad ; \quad z = \frac{3}{2}$

5. $(3a + 18)(5a - 25) = 0$

By zero-product property:

$3a + 18 = 0 \quad \text{or} \quad 5a - 25 = 0$

$3a = -18 \quad ; \quad 5a = 25$

$a = -6 \quad ; \quad a = 5$

6. $(8t + 4)(3t + 6) = 0$

By zero-product property:

$8t + 4 = 0 \quad \text{or} \quad 3t + 6 = 0$

$8t = -4 \quad ; \quad 3t = -6$

$t = -\frac{1}{2} \quad ; \quad t = -2$

Factoring to Solve Quadratic Equations Assignment

Solve each equation by factoring.

1. $x^2 - 5x + 6 = 0$

Factorize:

$x^2 - 2x - 3x + 6 = 0$

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

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

$x = 2 \quad ; \quad x = 3$

2. $x^2 + 11x + 28 = 0$

Factorize:

$x^2 + 7x + 4x + 28 = 0$

$x(x + 7) + 4(x + 7) = 0$

$(x + 4)(x + 7) = 0$

$x = -4 \quad ; \quad x = -7$

3. $s^2 + 9s = -20$

Factorize:

$s^2 + 9s + 20 = 0$

$s^2 + 4s + 5s + 20 = 0$

$s(s + 4) + 5(s + 4) = 0$

$(s + 4)(s + 5) = 0$

$s = -4 \quad ; \quad s = -5$

4. $6z^2 + 13z + 6 = 0$

Factorize:

$6z^2 + 9z + 4z + 6 = 0$

$3z(2z + 3) + 2(2z + 3) = 0$

$(3z + 2)(2z + 3) = 0$

$z = -\frac{2}{3} \quad ; \quad z = -\frac{3}{2}$