

Math 2 Unit 2.7 Example Solve Equations by Factoring

Period _____

Solve each equation by factoring.

1) $(5r + 4)(3r + 8) = 0$

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

3) $k^2 - 8k = 0$

4) $x^2 + x - 20 = 0$

5) $2x^2 - 18x + 28 = 0$

6) $7k^2 - 112k + 448 = 0$

7) $x^2 + 7x + 3 = 3$

8) $x^2 + 6x + 1 = -7$

9) $p^2 - 48 = 2p$

10) $m^2 = -18 - 9m$

$$11) b^2 - 4b + 15 = -5 + 5b$$

$$12) 4x^2 + 55x + 4 = 4 + 6x - 3x^2$$

$$13) 8x^2 - 76x + 140 = 0$$

$$14) 8x^2 - 9x - 14 = 0$$

$$15) 7n^2 + 6n - 8 = -7$$

$$16) 24k^2 + 256k + 506 = -6$$

$$17) 24x^2 + 3x = 21$$

$$18) 5n^2 - 2n = 0$$

$$19) 56n^2 + 512 = 512n$$

$$20) 49m^2 + 350m + 333 = -3$$

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Solve each equation by factoring.

1) $(5r + 4)(3r + 8) = 0$

$$\left\{-\frac{4}{5}, -\frac{8}{3}\right\}$$

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

$$\{-4, -3\}$$

3) $k^2 - 8k = 0$

$$\{8, 0\}$$

4) $x^2 + x - 20 = 0$

$$\{-5, 4\}$$

5) $2x^2 - 18x + 28 = 0$

$$\{2, 7\}$$

6) $7k^2 - 112k + 448 = 0$

$$\{8\}$$

7) $x^2 + 7x + 3 = 3$

$$\{-7, 0\}$$

8) $x^2 + 6x + 1 = -7$

$$\{-4, -2\}$$

9) $p^2 - 48 = 2p$

$$\{8, -6\}$$

10) $m^2 = -18 - 9m$

$$\{-6, -3\}$$

$$11) b^2 - 4b + 15 = -5 + 5b$$

$$\{4, 5\}$$

$$12) 4x^2 + 55x + 4 = 4 + 6x - 3x^2$$

$$\{-7, 0\}$$

$$13) 8x^2 - 76x + 140 = 0$$

$$\left\{\frac{5}{2}, 7\right\}$$

$$14) 8x^2 - 9x - 14 = 0$$

$$\left\{-\frac{7}{8}, 2\right\}$$

$$15) 7n^2 + 6n - 8 = -7$$

$$\left\{\frac{1}{7}, -1\right\}$$

$$16) 24k^2 + 256k + 506 = -6$$

$$\left\{-\frac{8}{3}, -8\right\}$$

$$17) 24x^2 + 3x = 21$$

$$\left\{\frac{7}{8}, -1\right\}$$

$$18) 5n^2 - 2n = 0$$

$$\left\{\frac{2}{5}, 0\right\}$$

$$19) 56n^2 + 512 = 512n$$

$$\left\{\frac{8}{7}, 8\right\}$$

$$20) 49m^2 + 350m + 333 = -3$$

$$\left\{-\frac{8}{7}, -6\right\}$$