

## Unit 2 Solving Quadratics Review

Solve each equation by factoring.

1)  $a^2 + 11a + 30 = 0$

2)  $x^2 - 5x + 4 = 0$

3)  $x^2 - 7x + 5 = -5$

4)  $n^2 - 8n + 22 = 7$

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

6)  $k^2 - 9k + 8 = 0$

7)  $5n^2 - 10 = -5$

8)  $5x^2 + 35x + 34 = 4$

9)  $3k^2 - 14k + 8 = 0$

10)  $64b^2 - 232b - 96 = 0$

$$11) 10p^2 - 25p - 60 = 0$$

$$12) 49k^2 + 35k + 4 = 0$$

**Factor each expression.**

$$13) 100x^2 - 36$$

$$14) 2x^2 - 50$$

$$15) 9a^2 - 16$$

$$16) 4x^2 + 9$$

$$17) 9b^2 + 4$$

$$18) k^2 + 25$$

**Find the value of c that completes the square.**

$$19) a^2 + 8a + c$$

$$20) x^2 + 34x + c$$

**Solve each equation by completing the square.**

$$21) x^2 - 14x + 47 = 0$$

$$22) x^2 + 6x - 94 = 0$$

$$23) x^2 + 6x - 81 = 10$$

$$24) x^2 + 6x + 87 = -5$$

**Solve each equation with the quadratic formula.**

$$25) 7k^2 - 4 = 11k$$

$$26) 8x^2 = -11 - 10x$$

$$27) 9x^2 + 7x = -8$$

$$28) 3r^2 = -2r - 11$$

**Solve each equation by taking square roots.**

$$29) 4r^2 - 8 = 188$$

$$30) 7m^2 + 7 = -105$$

$$31) 2(x - 3)^2 = 16$$

$$32) (x + 1)^2 + 17 = 12$$

- 33) Define the zero product property.
- 34) What is the Fundamental Theorem of Algebra? How can it be helpful?
- 35) What is the difference between solving an equation and simplifying an expression?
- 36) What is the difference between factoring and solving by factoring? How do you know when you should do each? Give an example of factoring and solving by factoring to help your explanation.
- 37) Describe the best time to use each method. Give an example problem to support your description (you do not have to solve the problem). Examples cannot be questions that are already on the review.
- a. Factoring
  - d. Taking a square root
  - c. Complete the square
  - d. Quadratic formula