

# 10.7 DAY 2

Warm Up

Factor the expression.

$$\sqrt{100x^2} - \sqrt{121}$$

$$(10x + 11)(10x - 11)$$

$110x$     $-110x$

$$25n^2 - 20n + 4$$

$$(5n - 2)(5n - 2)$$

$-10n$     $-10n$

**Homework Questions?**

38)  $x^2 + 12xy + 36y^2$

$(x + 6y)(x + 6y)$  ✓

$6xy$   $6xy$

24)

45)  $\frac{3k^2 - 39k + 90}{3}$

$3(k^2 - 13k + 30)$

$$\underline{32)} \quad 4r^2 + 12r + 9$$

$$(2r + 3)(2r + 3)$$

or  
or

$$\underline{34)} \quad \frac{18x^2}{2} + \frac{12x}{2} + \frac{2}{2}$$

$$2(9x^2 + 6x + 1)$$

$$2(3x + 1)(3x + 1)$$

## Self Scoring Scale

4- I can *summarize* the concepts and explain it to others.

3- I can *apply* the concepts to answer questions correctly.

2- I can *apply* the concepts but with some *mistakes*.

1- I *need help* to know how to apply the concepts.

0- I *can't* apply the concepts even with help.

## 10.7 Factoring Special Products

**Goals:** • Factor special products.

**EQ:** When factoring, what should you look for?

Algebra 1.5		
② LAST UNIT/Experience Quadratic Equations	① CURRENT UNIT <b>Polynomials &amp; Factoring</b>	③ NEXT UNIT/Experience Rational Equations
<p>⑧ Student Activities or Assignments</p> <ol style="list-style-type: none"> <li>1. 10.1</li> <li>2. 10.2</li> <li>3. 10.3</li> <li>4. 10.4</li> <li>5. 10.5</li> <li>6. 10.6</li> <li>7. 10.7</li> <li>8. 10.8</li> </ol>	<p>⑤ UNIT MAP</p>	<p>⑥ UNIT RELATIONSHIPS</p> <p>Factor Solve Calculate Simplify</p>
<p>⑦ UNIT SELF-TEST QUESTIONS</p> <ol style="list-style-type: none"> <li>1. When adding &amp; subtracting polynomials, how do you combine like terms?</li> <li>2. How do you use distributive property, FOIL, and diagrams to multiply polynomials?</li> <li>3. What is the method for factoring trinomials?</li> <li>4. How is factoring &amp; the Zero-Product Property used to solve polynomials?</li> </ol>		

### Example 4: Solve a Quadratic Equation

Solve  $9x^2 + 6x + 1 = 0$

$$(3x + 1)(3x + 1) = 0$$

$$\begin{array}{r}
 3x + 1 = 0 \\
 -1 \quad -1 \\
 \hline
 3x = -1 \\
 \frac{3x}{3} = \frac{-1}{3} \\
 \hline
 x = -\frac{1}{3}
 \end{array}$$

$$\begin{array}{r}
 3x + 1 = 0 \\
 \hline
 3x = -1 \\
 \frac{3x}{3} = \frac{-1}{3} \\
 \hline
 x = -\frac{1}{3}
 \end{array}$$

**Try It** Factor the expression.

$$5) \frac{20z^2}{5} - \frac{45}{5}$$

$$5(4z^2 - 9)$$

$$5(2z + 3)(2z - 3)$$

$$6) \frac{4y^2}{4} - \frac{40y}{4} + \frac{100}{4}$$

$$4(y^2 - 10y + 25)$$

$$4(y - 5)(y - 5)$$

$$\begin{aligned} & (2y - 10)(2y - 10) \\ & 2(y - 5) \cdot 2(y - 5) \\ & 4(y - 5)(y - 5) \end{aligned}$$

Solve the equation by factoring.

$$7) 81x^2 - 16 = 0$$

$$(9x + 4)(9x - 4) = 0$$

$$\begin{array}{l} 9x + 4 = 0 \\ -4 \quad -4 \end{array}$$

$$\frac{9x}{9} = \frac{-4}{9}$$

$$x = \frac{-4}{9}$$

$$\begin{array}{l} 9x - 4 = 0 \\ +4 \quad +4 \end{array}$$

$$\frac{9x}{9} = \frac{4}{9}$$

$$x = \frac{4}{9}$$

$$8) \frac{3w^2}{3} - \frac{36w}{3} + \frac{108}{3} = 0$$

$$3(w^2 - 12w + 36) = 0$$

$$3(w - 6)(w - 6) = 0$$

$$\begin{array}{l} w - 6 = 0 \\ +6 \quad +6 \end{array} \quad \begin{array}{l} w - 6 = 0 \\ +6 \quad +6 \end{array}$$

$$w = 6$$

$$w = 6$$

## Summary

**EQ:** What are the first 12 perfect squares?

0, 1, 4, 9, 16, 25, 36, 49, 64, 81, 100, 121,  
144

When factoring, what should you look for?

- $\div$  by #
- see if 1st & last perfect squares
- is  $x^2$  term positive

## 10.7 Day 2 Homework

10.7 p.613 #2-10,  
18-48even, 51-58

\*Check your folder for the Week 9 Warm Ups  
(TURN THEM INTO THE BASKET)