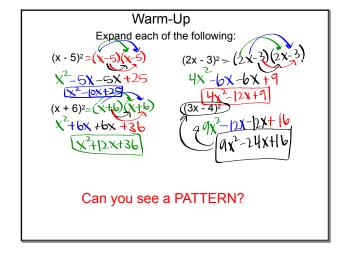
6-6

Special Factoring Objectives: & Factoring review

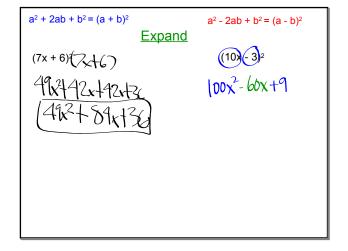
- 1. I can expand and factor perfect square trinomials.
- 2. I can factor the difference of two squares.



Factoring Perfect Square Trinomials

$$a^{2} + 2ab + b^{2} = (a + b)^{2}$$

$$a^{2} (2ab + b^{2}) = (a - b)^{2}$$



a² + 2ab + b² = (a + b)²

Expand: Your Turn!

(12x + 2)²

(3x - 5)²

[44x² + 24x + 24x + 4

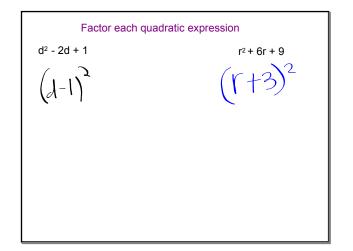
$$9x^2 - 30x + 25$$

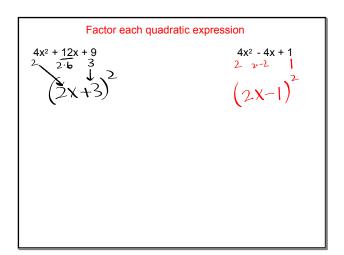
[44x² + 48x + 4

$$a^{2} + 2ab + b^{2} = (a + b)^{2}$$
Factor each quadratic expression
$$x^{2} + 4x + 4 = (x + 2)^{2}$$

$$x^{2} - 20x + 100$$

$$(x - |b|)^{2}$$





YOUR TURN!

Factor each quadratic expression

$$\begin{array}{c}
4x^2 + 20x + 25 \\
2 & 2 \cdot | 0 & 5
\end{array}$$

$$9x^2 - 24x + 16$$

Factoring the difference of two squares

$$a^2 - b^2 = (a + b)(a - b) = a^2 - ab + ba - b^2$$

$$a^{2} - b^{2} = (a + b)(a - b)$$
Factor the following quadratic expressions
$$x^{2} - 25$$

$$(x + 5)(x - 5)$$

$$(3n - 1)(3n + 1)$$

Factor each of the quadratic expressions

$$z^{2} - 81$$
 $z^{2} - 16$ $(5x + 9)(5x - 9)$ $(7 + 4)(2 - 4)$

Factor the quadratic expressions
$$3x^{2}-48$$

$$3(x^{2}-16)$$

$$(x^{2}+9)(x^{2}-9)$$

$$(x+3)(x-3)(x^{2}+9)$$

YOUR TURN!

Factor the quadratic expressions

$$x^2 - 100$$
 $(x - 10)(x + 10)$
 $(x - 10)(x + 10)$
 $(x - 10)(x + 10)$

YOUR TURN! Factor the following quadratic expressions $c^{2} + 24c + 144 \qquad x^{2} - 6x + 9 \qquad x^{2} - 49$ $\left(\begin{array}{c} (C + | 2) \end{array}\right)^{2} \qquad \left(\begin{array}{c} (X - 7)(X + 7) \end{array}\right)$