

Warm up

$$1) \quad 2x^2y + 4xy^2 \quad \begin{array}{c} \text{P} \\ \text{Q} \end{array} \begin{array}{c} x \\ x \end{array} \begin{array}{c} \text{R} \\ \text{S} \end{array} \begin{array}{c} y \\ y \end{array}$$

$$2xy(x + 2y)$$

$$2) \quad 2x^3 + 2x^2 - 5x - 5$$

$$\text{GCF: } 2x^2 \quad \underline{2x^2(x+1)} - \underline{5(x+1)} \rightarrow (x+1)(2x^2-5)$$

$$2x^2 - 8$$

$1x$	8
$2x$	-1

$$\frac{16}{15}$$

$$3) \quad 2x^2 + 15x - 8$$

$$(x+8)(2x-1)$$

$$9x^2 - 4$$

$$4) \quad \sqrt{9x^2 + 0x - 4} = (3x+2)(3x-2)$$

$3x$	2
$3x$	-2

Quiz - Factoring

1) $-5a^2 - 15$

2) $30k^3 + 48k^2$

3-5 Factoring Methods

I can determine which factoring method to use and then factor.

Find each product.

1) $(3x - 2)(3x - 2)$ 2) $4(x+1)$

$9x^2 - 6x - 6x + 4$

$4x + 4$

	$3x - 2$	
$3x$		
-2		

Factor Completely.

$$3) \quad \frac{7n^5}{7n^3} + \frac{35n^3}{7n^3}$$

$$7n^3(n^2 + 5)$$

$$4) \quad 7a^3 + a^2 - 6a$$

$$a(7a^2 + a - 6)$$

$$a(7a - 6)(a + 1) \quad \text{GCF}$$

Group

Factor

diff \square

$$7a^2 - 6$$

$7a$	-6
$1a$	1

$$\frac{7a}{1a} \quad \frac{-6a}{1a}$$

Factor Completely.

$$5) \quad 36n^4 - 64n^2$$

$$\text{GCF: } 4n^2$$

$$4n^2(\sqrt{9n^2} - \sqrt{16})$$

$$4n^2(3n - 4)(3n + 4)$$

$$6) \quad (35m^3 - 56m^2) + (20m - 32)$$

$$7m^2(5m - 8) + 4(5m - 8)$$

$$(5m - 8)(7m^2 + 4)$$

Factoring Battle Ship Directions

Each student will mark 15 spaces on their board.

Choose a trinomial from your list and factor it on a piece of paper.

Read the two binomials to your partner.

If your partner has a “battleship” in one or both of those places, they must erase it.

The person who “sinks” the most battleships wins!

FACTORING TRINOMIALS BATTLESHIP

PLAYER A

B

$(3x - 2)(x + 8)$ $3x^2 + 22x - 16$

$2x^2 + 13x + 6$

$6x^2 + 13x - 5$

$2x^2 + 3x - 20$

$(2x - 5)(x + 4)$

FACTORING TRINOMIALS BATTLESHIP!

$(3x - 2)$	$(x - 3)$	<u>$(x + 9)$</u>	$(x + 7)$	$(3x - 4)$	$(3x + 1)$
$(x - 7)$	$(5x + 1)$	$(x + 4)$	<u>$(4x - 3)$</u>	$(x + 8)$	$(2x - 3)$
$(4x + 5)$	$(2x + 1)$	$(4x - 1)$	$(x - 1)$	$(2x - 7)$	$(2x - 5)$
$(5x - 1)$	$(3x + 4)$	$(x + 6)$	$(2x + 3)$	$(4x - 5)$	$(3x - 1)$
$(x - 8)$	$(x + 3)$	$(4x + 3)$	$(2x + 5)$	$(2x - 1)$	$(x + 1)$
$(4x + 1)$	$(x - 6)$	$(x + 2)$	$(3x + 2)$	$(x - 5)$	$(3x + 5)$