

## Day 7 - Factor Trinomials (-, - &amp; +, -)

## Practice Assignment

Name: Key

Date: \_\_\_\_\_

Block: \_\_\_\_\_

Factor the expressions:

1.  $x^2 + 3x - 4$

$$\begin{array}{l} \downarrow \quad \downarrow \\ x \cdot x \quad -4 \cdot 1 \\ \quad \quad -2 \cdot 2 \end{array}$$

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

2.  $2x^2 + x - 10$

$$\begin{array}{l} \downarrow \quad \downarrow \\ 2x \cdot x \quad -5 \cdot 2 \\ \quad \quad -1 \cdot 10 \end{array}$$

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

3.  $\frac{2x^2 + 6x - 8}{2} \text{ GCF of 2}$

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

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

4.  $x^2 - 2x - 48$

$$\begin{array}{l} \downarrow \quad \downarrow \\ x \cdot x \quad -1 \cdot 48 \\ \quad \quad -2 \cdot 24 \\ \quad \quad -3 \cdot 16 \\ \quad \quad -4 \cdot 12 \\ \quad \quad -6 \cdot 8 \end{array}$$

$$(x-8)(x+6)$$

5.  $7x^2 - 34x - 5$

$$\begin{array}{l} \downarrow \quad \downarrow \\ 7x \cdot x \quad -5 \cdot 1 \end{array}$$

$$(7x+1)(x-5)$$

6.  $\frac{4x^2 + 20x - 144}{4} \text{ GCF of 4}$

$$4(x^2 + 5x - 36)$$

$$\begin{array}{l} \downarrow \\ -1 \cdot 36 \\ -2 \cdot 18 \\ -3 \cdot 12 \\ -4 \cdot 9 \\ -6 \cdot 6 \end{array}$$

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

7.  $5x^2 + 17x - 12$

$$\begin{array}{l} \downarrow \quad \downarrow \\ 5x \cdot x \quad -1 \cdot 12 \\ \quad \quad -2 \cdot 6 \\ \quad \quad -3 \cdot 4 \end{array}$$

$$(5x-3)(x+4)$$

8.  $x^2 + 5x - 14$

$$\begin{array}{l} \downarrow \quad \downarrow \\ x \cdot x \quad -1 \cdot 14 \\ \quad \quad -2 \cdot 7 \end{array}$$

$$(x+7)(x-2)$$

9.  $\frac{2x^2 + 14x - 60}{2} \text{ GCF of 2}$

$$2(x^2 + 7x - 30)$$

$$\downarrow \\ x \cdot x$$

$$\begin{array}{l} \downarrow \\ -1 \cdot 30 \\ -2 \cdot 15 \\ -3 \cdot 10 \\ -5 \cdot 6 \end{array}$$

$$2(x+10)(x-3)$$

10. Which of the following b values makes the trinomial  $x^2 + bx - 30$  not factorable?

- A. 7
- B. -7
- C. 1
- D. 11

$$x^2 + 7x - 30$$

$$(x+10)(x-3)$$

$$x^2 - 7x - 30$$

$$(x-10)(x+3)$$

$$x^2 + x - 30$$

$$(x+6)(x-5)$$

$$x^2 + 11x - 30$$

not possible

11. Determine the values of k and n.

a.  $(x+4)(x+k) = x^2 + nx - 24$

$$k = -6$$

$$n = -2$$

b.  $(x+k)(x-1) = x^2 + nx - 5$

$$k = 5$$

$$n = 4$$

c.  $(x+5)(x+k) = x^2 + 3x - n$

$$k = -2$$

$$n = 10$$

12. If the area of a rectangle is  $A = x^2 + 4x - 12$ , answer the following:

a. What are the side lengths of the rectangle?

$$l = x + 6$$

$$w = x - 2$$

$$A = (x+6)(x-2)$$

$$A = x^2 + 4x - 12$$

b. What is the perimeter of the rectangle?

$$x - 2$$

$$x - 2$$

$$x + 6$$

$$x + 6$$

$$P = 4x + 8$$