

Name: \_\_\_\_\_

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

Do Now:

Multiply

a)  $(3x-7)(2x+9)$

$$\begin{array}{r} 6x^2 + 27x - 14x - 63 \\ \hline 6x^2 + 13x - 63 \end{array}$$

b)  $(x-11)(x+11)$

$$x^2 - 121$$

c) Divide:  $\frac{8+4}{2} = \frac{12}{2} = 6$

d) Can you find another way to divide  $\frac{8+4}{2}$ ?

$$4 + 2 = 6$$

### LESSON 8: DIVIDING A POLYNOMIAL BY A MONOMIAL

1)  $\frac{10x + 20y}{5}$

$$2x + 4y$$

2)  $\frac{20x^4 + 10x^3 - 5x^2}{5x}$

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

3)  $\frac{12x^3 + 8x^2 - 2x}{2x}$

$$6x^2 + 4x - 1$$

4)  $\frac{3ab^2 - 4a^2b}{ab}$

$$3b - 4a$$

5)  $\frac{14x^2 + 7x}{7x}$

$$2x + 1$$

6)  $\frac{2a^5 - 6a^4}{2a^2}$

$$a^3 - 3a^2$$

$$7) \frac{24x^3y^4 - 18x^2y^2 - 6xy}{-6xy \quad -6xy \quad -6xy}$$

$$\boxed{-4x^2y^3 + 3xy + 1}$$

$$8) \frac{15y^4 - 12xy^3}{3y^2 \quad 3y^2 \quad 3y^2}$$

$$\boxed{5y^2 - 4xy}$$

9) Subtract  $3x^2 + 5x + 5$  from  $(-x^2 + 6x - 9) - (3x^2 + 5x + 5)$

$$-x^2 + 6x - 9 - 3x^2 - 5x - 5$$

$$\boxed{-4x^2 + x - 14}$$

10) Simplify:  $(-2x^2 + x + 3) - 5(x^2 + 2x - 1)$

$$-2x^2 + x + 3 - 5x^2 - 10x + 5$$

$$\boxed{-7x^2 - 9x + 8}$$