

Sec 5.5 - multiplying/dividing a Polynomial by a constant

recall,

$$2(-2) = -4 \qquad \frac{-12}{2} = -6$$

$$-3(-3) = 9 \qquad \frac{36}{-3} = -12$$

$$-2(-5) = 10$$

$$(-1)(3) = -3 \qquad \frac{-18}{-2} = 9$$

* we are going to multiply and divide polynomials by a constant symbolically (meaning we are not using algebra tiles).

* what we will be using is called the distributive property for multiplying.

MULTIPLYING

Examples: ① $2(4x) = 8x$

$$\begin{aligned} \text{② } & -5(4x^2 - 5x + 3) \\ & = -20x^2 + 25x - 15 \end{aligned}$$

$$\begin{aligned} \text{③ } & 3(7f^2 + 9) \\ & = 21f^2 + 27 \end{aligned}$$

$$\begin{aligned} \text{④ } & -3(4y^2 - 3x^2 + 2xy - 6) \\ & = -12y^2 + 9x^2 - 6xy + 18 \end{aligned}$$

DIVIDING

$$\begin{aligned} \text{Examples: } \textcircled{1} \quad -8x \div 2 \\ &= \frac{-8x}{2} \\ &= -4x \end{aligned}$$

$$\begin{aligned} \textcircled{2} \quad (6f - 9) \div 3 \\ &= \frac{6f - 9}{3} \\ &= \frac{6f}{3} - \frac{9}{3} \\ &= 2f - 3 \end{aligned}$$

$$\begin{aligned} \textcircled{3} \quad \frac{-3m^2 + 15mn - 21n^2}{-3} \\ &= \frac{-3m^2}{-3} + \frac{15mn}{-3} - \frac{21n^2}{-3} \\ &= m^2 - 5mn + 7n^2 \end{aligned}$$

Complete pg 246-248

#'s: 7, 8, 9, 11-18, 22, 23

$$\downarrow \\ 9a) 2(3v^2 + 2v + 4)$$