

Warm-Up:

Simplify.

1) $(3x^4 - 2x^2 + 17) - (x^4 + 5x^2 - 3)$

$$\underline{-x^4 - 5x^2 + 3}$$

$$2x^4 - 7x^2 + 20$$

2) $5(3a^5 - 7a^4 - 4a^3 + 6a^2 + 9a - 210)$

$$15a^5 - 35a^4 - 20a^3 + 30a^2 + 45a - 1050$$

24, 28, 34

24) $P = 10x^2 - 5x + 16$

$$\begin{array}{r} 4x^2 - 3 \\ \hline 10x + 7 \end{array}$$

$$\begin{array}{r} 10x^2 - 5x + 16 \\ -4x^2 + 3 \\ \hline \end{array}$$

$$\begin{array}{r} -10x - 7 \\ \hline \end{array}$$
$$\underline{6x^2 - 15x + 12}$$

28) $(9x^3 + 3x - 13) - (6x^2 - 5x) + (2x^3 - x^2 - 8x + 4)$

$$9x^3 - 13$$

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

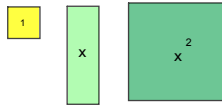
$$2x^3 - x^2 - 8x + 4$$

$$\underline{11x^3 - 7x^2 - 9}$$

34) $5xy^2 \quad 3x^2y$

Section 7-5: Multiplying a Monomial by a Polynomial

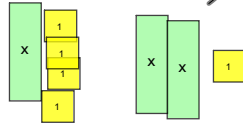
Use the distributive property to multiply.



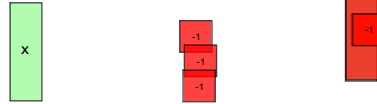
$$2 + 3 = 5$$



$$(x+4) + (2x+1) = 3x+5$$



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



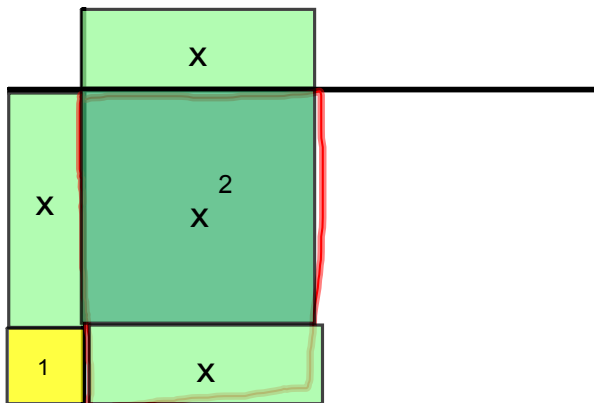
$$2 \cdot 3 = 6$$



Section 7-5: Multiplying a Monomial by a Polynomial

Use algebra tiles to model.

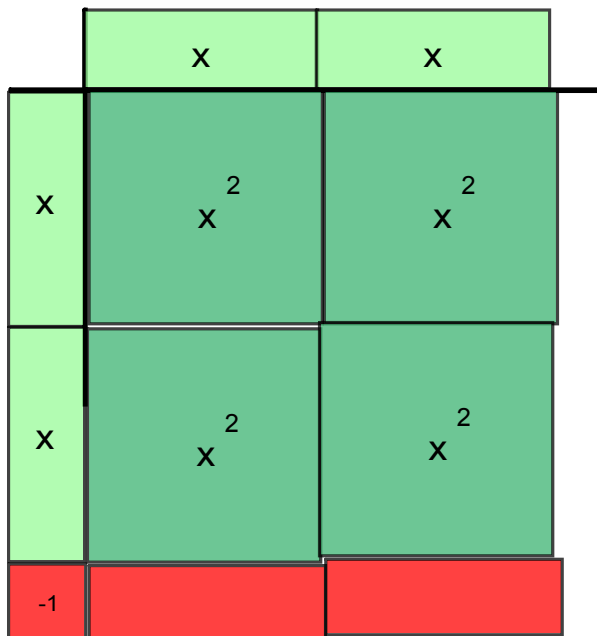
$$x(x+1) = x^2+x$$



Section 7-5: Multiplying a Monomial by a Polynomial

Use algebra tiles to model.

$$2x(2x - 1) = 4x^2 - 2x$$



Examples:

Simplify.

1) $6y(4y^2 - 9y - 7)$

$$24y^3 - 54y^2 - 42y$$

2) $3(2t^2 - 4t - 15) + 6t(5t + 2)$

$$6t^2 - 12t - 45 + 30t^2 + 12t$$

$$36t^2 - 45$$

Examples:

3) Admission to the Super Fun Amusement Park is \$10. Once in the park, super rides are an additional \$3 each, and the regular rides are an additional \$2. Sarita goes to the park and rides 15 rides, of which s of those are super rides.

a) Find an expression for how much money Sarita spent at the park.

$$\begin{aligned} 10 + 3s + 2(15 - s) \\ 10 + 3s + 30 - 2s \\ s + 40 \end{aligned}$$

b) Evaluate the cost if Sarita rode 9 super rides.

$$\begin{aligned} 9 + 40 \\ \$49 \end{aligned}$$

Examples:

Solve

4) $b(12 + b) - 7 = 2b + b(-4 + b)$

$$12b + b^2 - 7 = 2b - 4b + b^2$$

$$\begin{array}{r} 12b + b^2 - 7 = -2b + b^2 \\ -b^2 \qquad \qquad -b^2 \\ \hline \end{array}$$

$$\begin{array}{r} 12b - 7 = -2b \\ -12b \qquad -12b \\ \hline \end{array}$$

$$\begin{array}{r} -7 = -14b \\ -14 \qquad -14 \\ \hline \end{array}$$

$$\frac{1}{2} = b$$

Homework: pg. 392-395 #16-30 even, 32-34 all,
36-42 even, 48, 58, 66