


5.5 Multiplying & Dividing a Polynomial by a Constant

May 12, 2015 1:03 PM

* Use the **Distributive Property** to multiply a polynomial by a constant

Ex #1

$$(a) \quad -5(4e^2 - 5e + 3)$$

$$= -20e^2 + 25e - 15$$

* Use a **Model (Rectangle)**

Ex #2

Write the multiplication sentence modelled by each rectangle

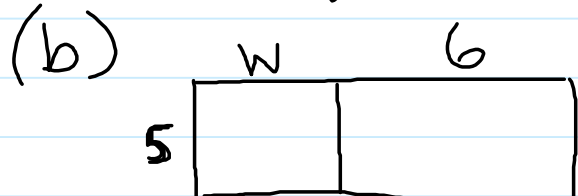


$$4(m + 4)$$

$$(\text{length}) \times (\text{width})$$

$$= 4(m + 4)$$

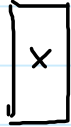
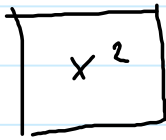
$$= \boxed{4m + 16}$$



$$5(w + 6)$$


$$= \boxed{5w + 30}$$

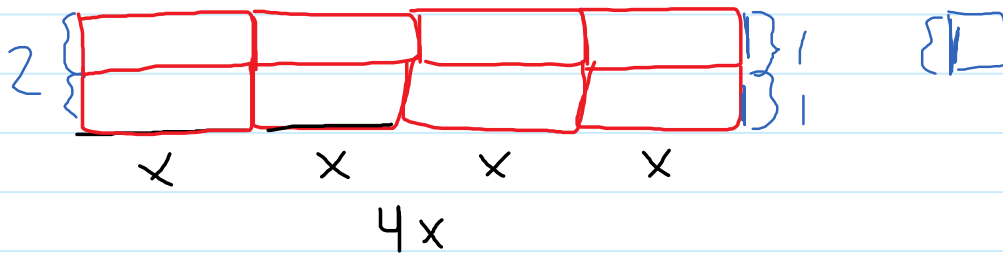
Use Algebra Tiles



Ex 3

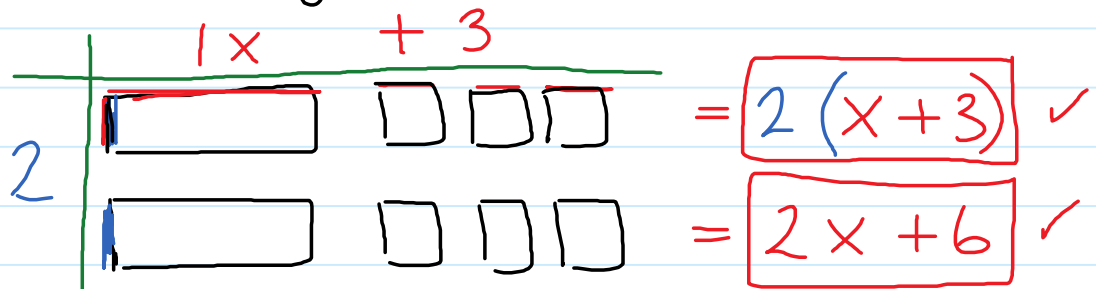
To multiply $2(4x)$ with algebra tiles $= 8x$

- 1 Model 2 rows of 4 
- 2 Solve



$$\Rightarrow 2(4x)$$

Ex #5 Write the multiplication sentence represented by these tiles



Division

Ex. #6 Find the quotient

$$(a) \frac{-9v^2 + 6}{3}$$

$$= \frac{-9v^2}{3} + \frac{6}{3}$$

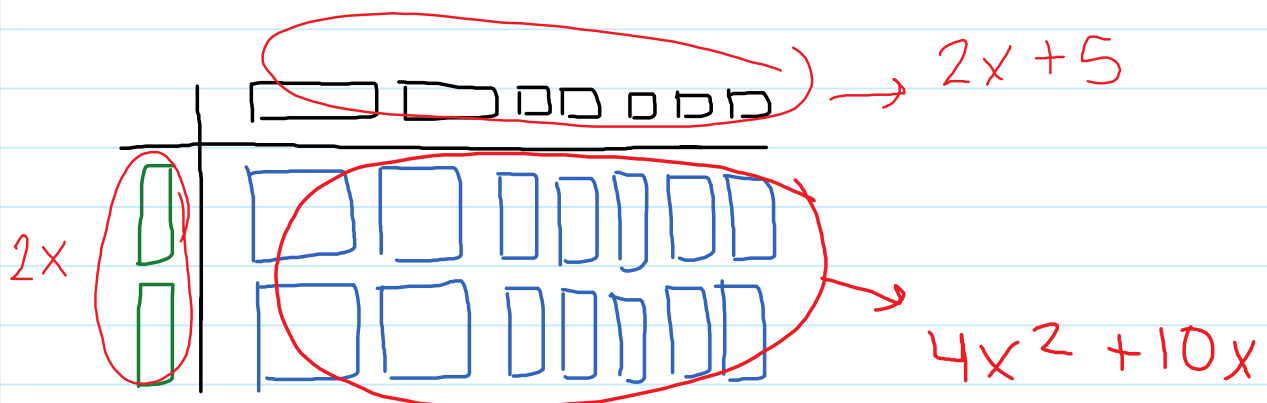
$$= \boxed{-3v^2 + 2}$$

$$(b) \frac{(6s - 9)}{3}$$

$$= \frac{6s}{3} - \frac{9}{3}$$

$$= \boxed{2s - 3}$$

Ex # 1 Write the division sentence modelled by the tiles and solve

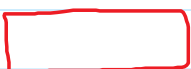



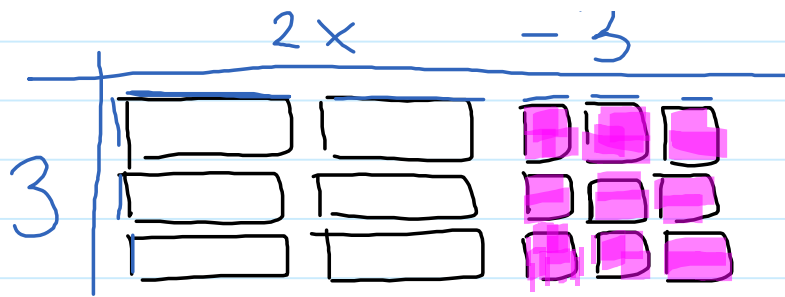
$$\text{Multiply: } (2x)(2x + 5) = 4x^2 + 10x$$

$$\text{DIVISION } \frac{4x^2 + 10x}{2x} = \frac{4x^2}{2x} + \frac{10x}{2x} = 2x + 5$$

Ex # 1

find the quotient $(6s - 9) \div 3$

Arrange 6  and 9  into 3 equal rows



$$3(2x - 3) \checkmark$$

$$= 6x - 9 \checkmark$$

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