

Unit 6: Polynomials II

A: Multiplying & Dividing Monomials

Multiplying Monomials - Algebra Tiles

green + x

orange + y

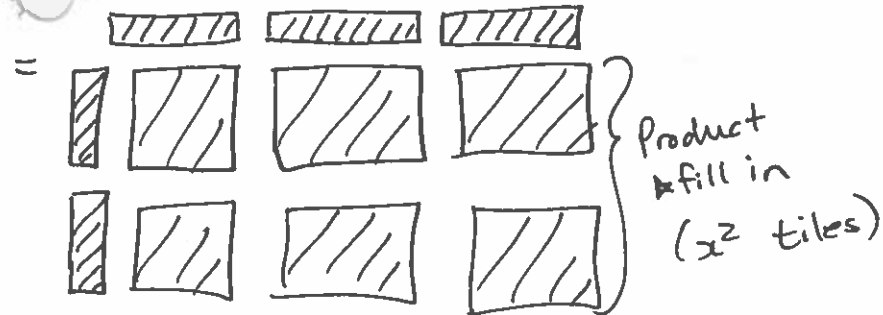
grey xy

green
 x^2

Examples:

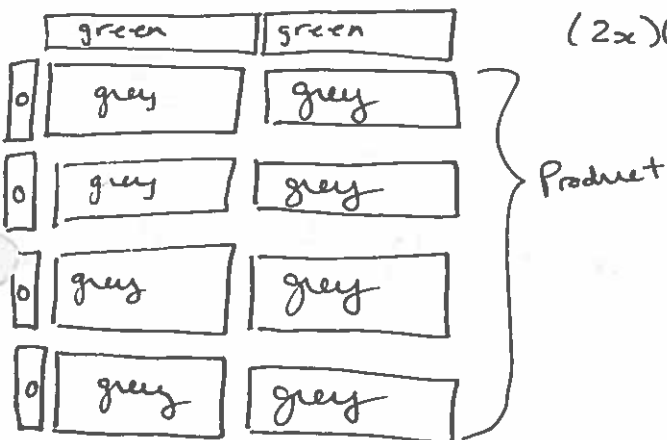
1. Determine each product using algebra tiles.

a) $(3x)(2x)$



$(3x)(2x) = 6x^2$
b/c there is 6 x^2 tiles.

b) $(2x)(4y)$



$(2x)(4y) = 8xy$
b/c 8 "xy" tiles.

Multiplying Polynomials Algebraically

1. Number \times Number [Coeff \times Coeff]

2. letter \times letter [add exponents if same letter]

Examples:

1. Multiply the following:

$$\begin{aligned} \text{a) } (3x)(5x) \\ &= [3 \cdot 5][x \cdot x] \\ &= 15[x^{1+1}] \\ &= 15x^2 \end{aligned}$$

$$\begin{aligned} \text{b) } (-5x)(-2x) \\ &= [-5 \cdot -2][x \cdot x] \\ &= 10x^{1+1} \\ &= 10x^2 \end{aligned}$$

$$\begin{aligned} \text{c) } (x)(-5x) \\ &= (1x-5)(x \cdot x) \\ &= -5x^2 \end{aligned}$$

$$\begin{aligned} \text{d) } (-y)(y) \\ &= -y^2 \end{aligned}$$

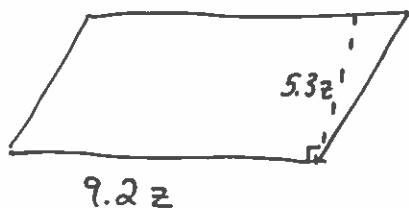
$$\begin{aligned} \text{e) } (3y)(6y) \\ &= 18y^2 \end{aligned}$$

$$\begin{aligned} \text{f) } (4a)(-5b) \\ &= -20ab \end{aligned}$$

$$\begin{aligned} \text{g) } \left(\frac{2}{3}x\right)(6x) \\ &= \left(\frac{2}{3}\right)\left(\frac{6}{1}\right)[x \cdot x] \\ &= 4x^2 \end{aligned}$$

$$\begin{aligned} \text{h) } (2.5p)(-4p) \\ &= -10p^2 \end{aligned}$$

2.



→ What is an expression for the area of the parallelogram?

$$\begin{aligned} A &= bh \\ &= (9.2z)(5.3z) \\ &= 48.76z^2 \end{aligned}$$

Assignment Pg. 260 # 3-10