

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

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

## Polynomial Assignment #2

Due Wednesday March 16th

1. Show 2 different ways to simplify the expression  $(3x)(2x + 4)$ .

2. Mahmoud expanded the expression  $(5x)(2x + 1)$ .

$$(5x)(2x + 1) = 10x^2 + 1$$

a) Is his work correct? Circle YES or NO.

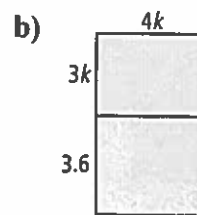
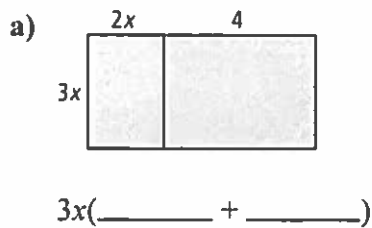
b) Give 1 reason for your answer.

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c) Write the correct answer.

### Practise

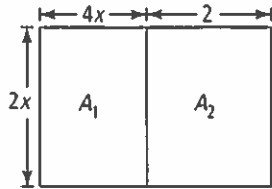
3. Write the multiplication expression for each model.



4. Expand each expression using an area model.

*Expand means multiply the first term by each term in the brackets.*

a)  $(2x)(4x + 2)$



$A_1 = (2x)(\text{_____})$        $A_2 = (2x)(\text{_____})$

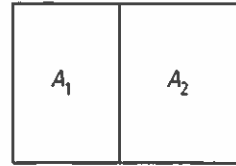
$= \text{_____}$                        $= \text{_____}$

Total area =  $A_1 + A_2$

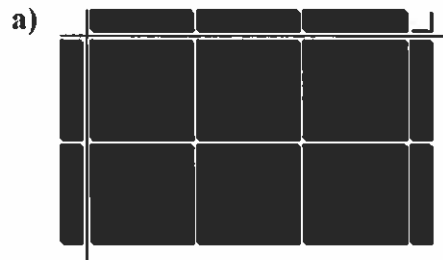
$= \text{_____} + \text{_____}$

$= \text{_____}$

b)  $(a)(3a + 6)$

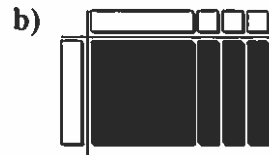


5. Write the multiplication statement for the models.

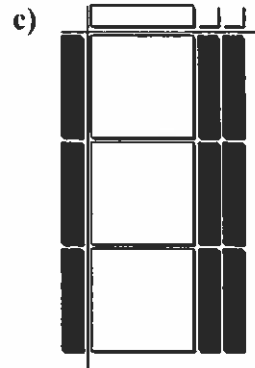


$(\text{_____}x)(\text{_____}x + \text{_____})$

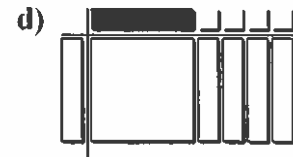
$= \text{_____}x^2 + \text{_____}x$



\_\_\_\_\_



\_\_\_\_\_

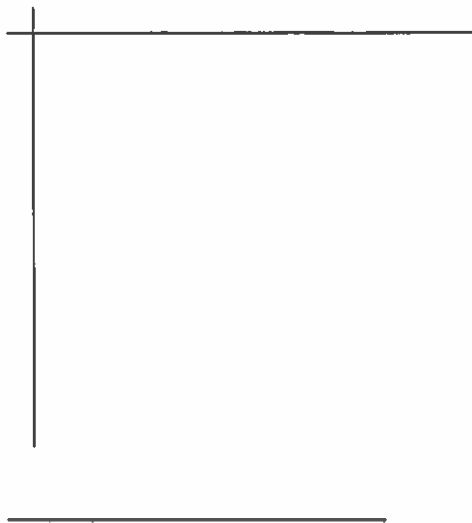


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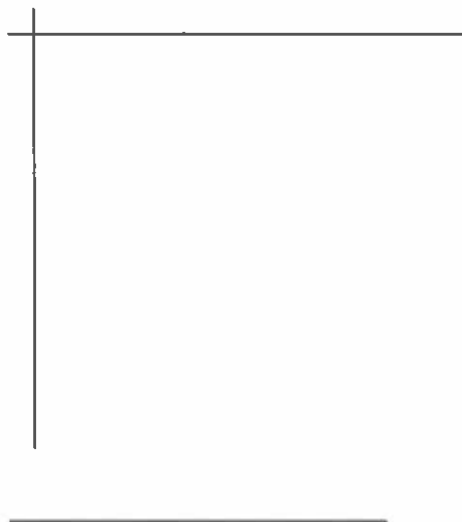
6. Use algebra tiles to expand each expression.

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

- Draw 1 positive  $x$ -tile and 2 negative 1-tiles along the top.
- Draw 3 positive  $x$ -tiles along the side.
- Use  $x^2$ -tiles and negative  $x$ -tiles to complete the rectangle.



b)  $(2x)(-2x + 1)$



7. Expand using the distributive property.

a)  $(2x)(3x - 1)$

$= (2x)(\underline{\hspace{2cm}}) - (2x)(\underline{\hspace{2cm}})$

$=$

b)  $(3p)(2p + 5)$

c)  $(4j)(2j - 3)$

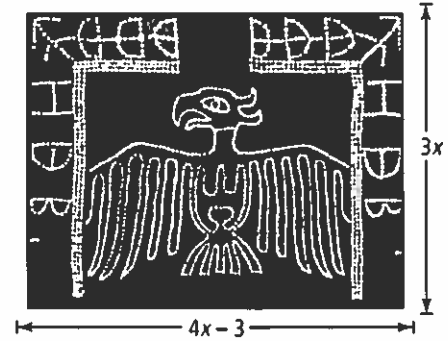
d)  $(0.1r)(30r + 10)$

**Apply**

8. A rectangular blanket has a width of  $3x$  and a length of  $4x - 3$ .

a) Write an expanded expression for the area of the blanket.

Area = length  $\times$  width



b) Write a simplified expression for the perimeter of the blanket.

Perimeter =  $(2 \times \text{length}) + (2 \times \text{width})$

9. A rectangular field is  $(4x + 2)$  metres long.  
The width of the field is 2 m shorter than the length.

a) Write the expression for the width of the field: \_\_\_\_\_

b) Label the rectangle with the expressions for the length and width.



c) What is an expression for the area of the field?

# Graphic Organizer

*Simplify each expression. Show different methods.*

Use a model.

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

Use a model.

$$\frac{-6x^2}{2x}$$

**Multiplying Monomials**

**Dividing Monomials**

Use algebra.

$$(-4x)(5x)$$

Use algebra.

$$\frac{16xy}{4x}$$

**Multiplying and  
Dividing  
Polynomials**

Draw a rectangle.

$$(2x)(3x + 1)$$

Use algebra tiles.

$$\frac{4x^2 - 6x}{2x}$$

Use algebra tiles.

$$(2x)(3x + 1)$$

**Dividing Polynomials by Monomials**

Use algebra.

$$\frac{4x^2 - 6x}{2x}$$

Use algebra.

$$(2x)(3x + 1)$$

**Multiplying Polynomials by Monomials**