Unit 4: Variable Expressions

Lesson 5: Simplifying Variable Expressions

Notes 4.5

Name: Key

Hour:

Using the Distributive Property to Simplify Expressions

1) $-2(x+4)-(-4x)+6$

$-2x-8+4x+6 \rightarrow 2x-2$

2) $-(x+3)-(-3x+2)$

$-x-3+3x-2 \rightarrow 2x-5$

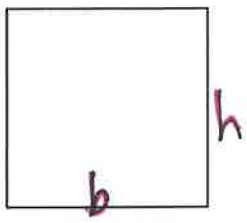
3) $4(-x^2+x-3)-2(x-3)+15$

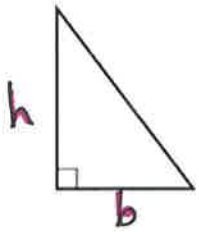
$-4x^2+4x-12-2x+6+15 \rightarrow -4x^2+2x+9$

4) $x+10-7x+3(2x+4)-(5x+2)$

$x+10-7x+6x+12-5x-10 \rightarrow -5x+12$

Area and Perimeter





Area: The amt of space something covers.

ex: carpeting a floor
grass seed in a yard
painting a wall

Square/Rectangle: $A = b \cdot h$

Triangle: $A = \frac{1}{2}bh$

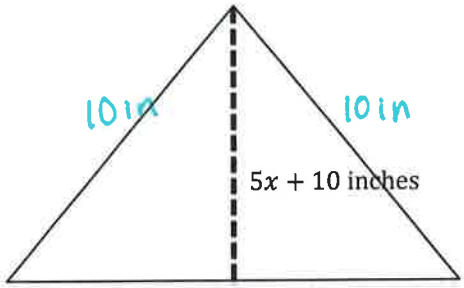
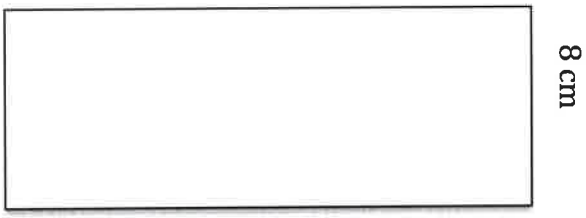
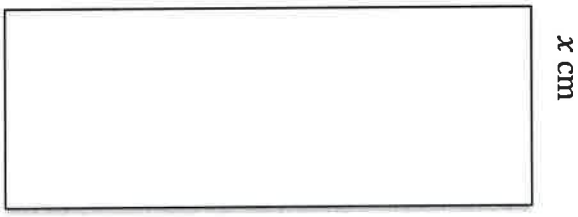
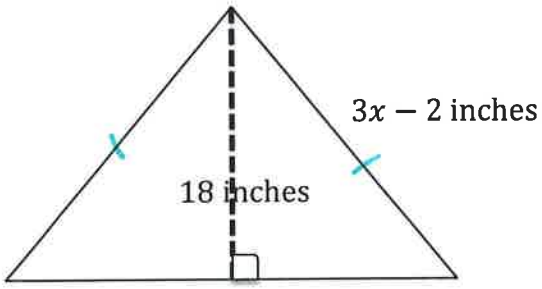
Perimeter: The distance around something.

Square / Rectangle: $P = 2b + 2h$

Triangle: $P = S1 + S2 + S3$

ex. fence around yard
trim/border around room

Examples: Find the area and perimeter of each figure:

	Area	Perimeter
1) 	$A = \frac{1}{2}bh$ $= \frac{1}{2}(14)(5x+10)$ $= 7(5x+10)$ $= 35x + 70 \text{ in}^2$	$P = S1 + S2 + S3$ $= 10 + 10 + 14$ $= 34 \text{ in}$
2) 	$A = bh$ $= (4x+4)(8)$ $= 32x + 32 \text{ cm}^2$	$P = 2b + 2h$ $= 2(4x+4) + 2(8)$ $= 8x + 8 + 16$ $= 8x + 24 \text{ cm}$
3) 	$A = bh$ $= (5x+4)(x)$ $= 5x^2 + 4x \text{ cm}^2$	$P = 2b + 2h$ $= 2(5x+4) + 2(x)$ $= 10x + 8 + 2x$ $= 12x + 8 \text{ cm}$
4) 	$A = \frac{1}{2}bh$ $= \frac{1}{2}(12)(18)$ $= 108 \text{ in}^2$	$P = S1 + S2 + S3$ $= (3x-2) + (3x-2) + 12$ $= 6x + 8 \text{ in}$

Homework: Simplifying Variable Expressions wkst.

Adapted: Simplifying Variable Expressions wkst. #1-11 (odds only)