	Topic/Objective: 1.2 AGS 2	Name: Key
	Review Distribution, Combining Like Terms, Area/Perimeter, and GCF	Period:
		Date:

Essential Question: What are the steps to finding the GCF when there are variables in the terms?

Questions:

Simplify:

1. $3x(2x + 4) + 4(x + 6) = 3x \cdot 2x + 3x \cdot 4 + 4 \cdot x + 4 \cdot 6$

$= 6x^2 + 12x + 4x + 24 = \boxed{6x^2 + 16x + 24}$

2. $x(5x - 3) - 2(3x + 4) = x \cdot 5x - x \cdot 3 + -2 \cdot 3x + -2 \cdot 4$

$= 5x^2 - 3x - 6x - 8 = \boxed{5x^2 - 9x - 8}$

3. $4x(3x - 6) + 3(5x - 4) = 4x \cdot 3x + 4x \cdot 6 + 3 \cdot 5x - 3 \cdot 4$

$= 12x^2 - 24x + 15x - 12 = \boxed{12x^2 - 9x - 12}$

4. $2x(6x - 5) - 6(2x - 1) = 2x \cdot 6x - 2x \cdot 5 - 6 \cdot 2x - 6(-1)$

$= 12x^2 - 10x - 12x + 6 = \boxed{12x^2 - 22x + 6}$

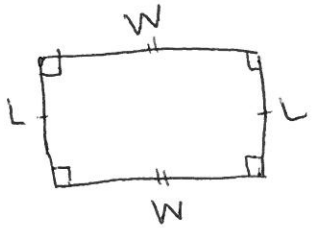
5. $5x(x + 2) - 7(2x - 6) = 5x \cdot x + 5x \cdot 2 - 7 \cdot 2x - 7(-6)$

$= 5x^2 + 10x - 14x + 42 = \boxed{5x^2 - 4x + 42}$

How do you find the perimeter of a rectangle?

$P = L + W + L + W$

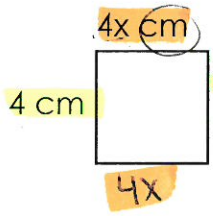
$P = 2L + 2W$ units



How do you find the area of a rectangle?

$A = L \cdot W$ units^2

Write an expression for the perimeter and area of each:

6. 

perimeter = $4 + 4x + 4 + 4x = \boxed{8x + 8 \text{ cm}}$

area = $4x \cdot 4 = \boxed{16x \text{ cm}^2}$

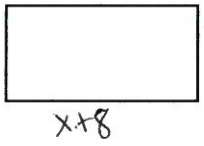
$= x+6 + x+6 + x+6 + x+6$

7. 

perimeter = $4(x+6) = \boxed{4x+24 \text{ cm}}$

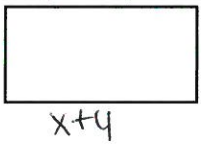
area = $(x+6)(x+6) = \boxed{x^2+12x+36 \text{ cm}^2}$

FOIL or box method

8. 

perimeter = $2(x+8) + 2(x+2) = 2x+16+2x+4$
$= \boxed{4x+20 \text{ ft}}$

area = $(x+8)(x+2)$
$= x^2+2x+8x+16 = \boxed{x^2+10x+16 \text{ ft}^2}$

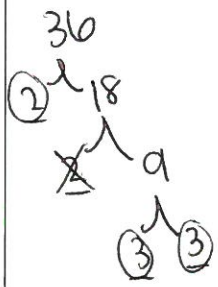
9. 

perimeter = $2(x+4) + 2(x-2) = 2x+8+2x-4$
$= \boxed{4x+4 \text{ m}}$

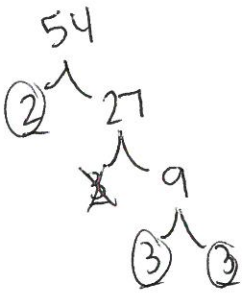
area = $(x+4)(x-2)$
$= x^2-2x+4x-8$
$= \boxed{x^2+2x-8 \text{ m}^2}$

Find the GCF for each:

10. 36 and 54



$2 \cdot 3 \cdot 3 = 18$



11. 24ab and 16ac — 8a

12. $16x^2y$ and $12xy^2$ — 4xy

13. $4x^2y^2z$, $8xy^2z$, and $6xyz^2$ — 2xyz

14. 10mn, 5mnp, and 2np — n

Summary: What are the steps to finding the GCF when there are variables in the terms?

make a factor tree & list all variables w/o exponents, then circle what they have in common