

Warmup #1

$$1) (\cancel{12x^2} + \cancel{17y} - 4) + (\cancel{9y^2} - \cancel{13y} + 3)$$

$$21y^2 + 4y - 1$$

$$2) -\cancel{3m^3} + \cancel{m} + \cancel{4m^2} + \cancel{6m} - \cancel{7m^3}$$

$$-10m^3 + 7m + 4m^2$$

$$-10m^3 + 4m^2 + 7m$$

order of
exponents
hi-low

$$3) (3a^3 + 2a - 2) - (a^3 - 3a^2 - 3a + 7)$$

$$\cancel{3a^3} + \cancel{2a} - \cancel{2} - \cancel{a^3} + 3a^2 + \cancel{3a} - \cancel{7}$$

$$2a^3 + 5a - 9 + 3a^2$$

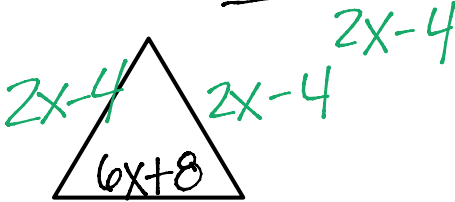
$$2a^3 + 3a^2 + 5a - 9$$

$$4) -(3z - 4 + 10y - 10z + 3)$$

$$-\cancel{3z} + \cancel{4} - 10y + \cancel{10z} - \cancel{3}$$

$$7z + 1 - 10y$$

The base of an isosceles triangle can be expressed as "the product of 6 and a number increased by 8." The legs of the isosceles triangle can be expressed as "4 less than twice a number." Use the information to label the triangle below.



1. Use the diagram to write and simplify the expression that represents the perimeter of the triangle.

$2x-4 + 6x+8 + 2x-4$ Add all sides



2. Sally wrote the following expression as her answer to #1. How could she obtain this expression from the diagram?

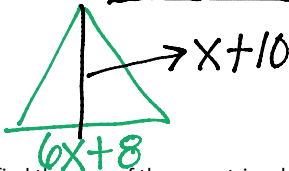
$P = 2(2x - 4) + (6x + 8)$

There are 2 sides of the Δ that R $2x-4$ and the base is $6x+8$.

3. Simplify Sally's expression. How does this compare to your simplified expression for the perimeter in #1?

$2(2x-4) + (6x+8)$
 $4x-8 + 6x+8$ $10x$

4. The height of the triangle is "10 greater than a number." Write and simplify the expression to represent the area of the triangle.



Area: $\frac{1}{2}bh$
 $\frac{1}{2}(6x+8)(x+10)$

5. Jill was trying to find the area of the same triangle. She wrote the following expression and then simplified.

$A = 2(6x - 8)(2x - 4)$
 $A = 24x^2 + 16x - 64$

Jill multiplied by 2 instead of $\frac{1}{2}$. Instead of $(6x-8)$ it should be $(6x+8)$. Instead of the height she used the leg.

How would you explain Jill's misconception(s) to her?

Multiply

$$1) (2x-1)(3x-7)$$

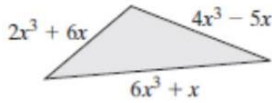
	<u>2x</u>	<u>-1</u>
<u>3x</u>	6x ²	-3x
<u>-7</u>	-14x	7

$$6x^2 - 17x + 7$$

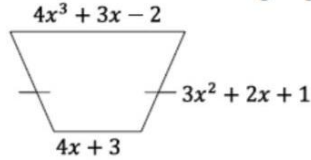
$$2) -3(x-3)(7x+8)$$
$$(-3x+9)(7x+8)$$

Write an expression for the perimeter.

1.)

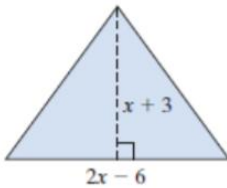


2.)



Write an expression for the area.

3.)

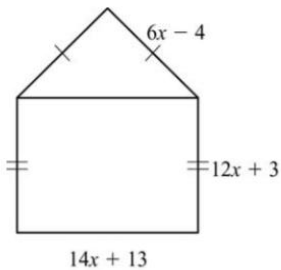


4.)

Square



5) Find the **perimeter**, in units, of the pentagon below.



6) In a rectangle, one side is 3 units smaller than the other. Draw a picture and label what you know. Find the **area** and the **perimeter** of the rectangle.

