Name: _____ Period: _____ Due Date: _____
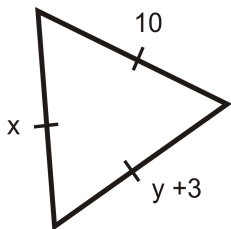
## ASSIGNMENT 7-6
## ANGLES, TRIANGLES, AND ALGEBRA!

UNIT 7: SHAPES

SYW: NO WORK • NO CREDIT
WORK IN PENCIL ONLY!

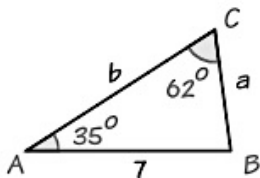**Use the images to answer each part below. Remember to show your work!**

1. Find the values of x and y.



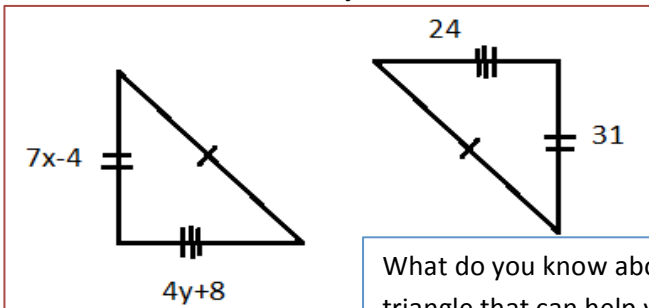What do you know about the triangle that can help you solve for x and y?

_____

X=_____, y=_____

2. Find the $m\angle B$



What do you know about the angles in the triangle that can help you?
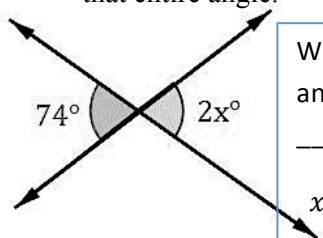
_____

$m\angle B =$ _____

3. Find the value of x and y.



What do you know about the triangle that can help you solve for x and y?
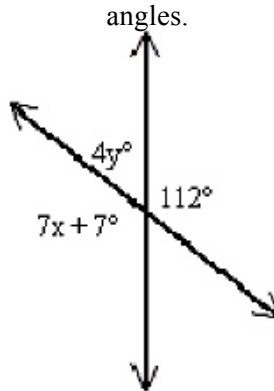
_____

X=_____, y=_____

4. Find the value of x, and determine the size of that entire angle.



What do you know about these angles that can help you?

_____

$x =$ _____ $m\angle(2x) =$ _____

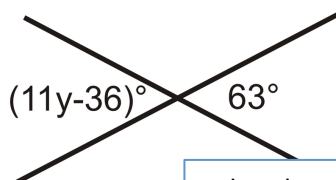5. Find the values of x, y, and the measure of their angles.



Drawing not to scale

What do you know about these angles that can help you?

_____
_____

$x =$ _____, $y =$ _____

$m\angle(4y) =$ _____
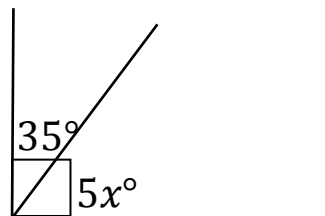
$m\angle(7x + 7) =$ _____

6. Determine the value of y.



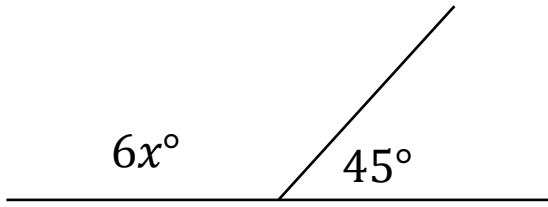What do you know about these angles that can help you?

_____

$y =$ _____

7. Find the value of x, and determine the size of the missing angle.



What do you know about these angles that can help you?

_____
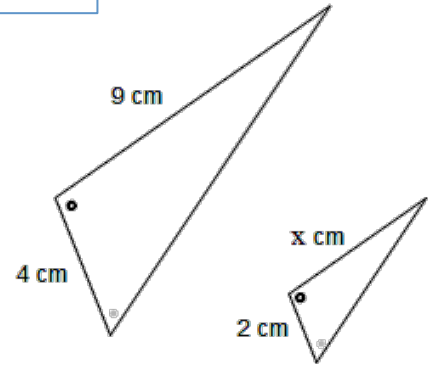
$x =$ _____ $m\angle(5x) =$ _____

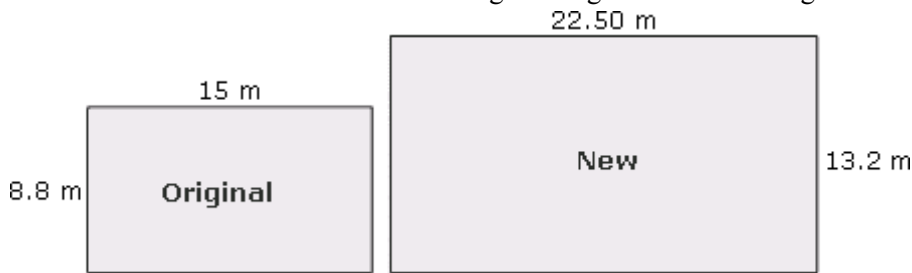8. Find the value of x, and determine the size of the missing angle.

$6x°$    $45°$

What do you know about these angles that can help you?

_____

$x =$ _____ , $m∠(6x) =$ _____

9. Find the value of x, and determine the SCALE FACTOR for taking the bigger triangle to the smaller triangle.

9 cm

x cm

4 cm

2 cm

10. Determine the SCALE FACTOR for taking the original to the new figure.

22.50 m

15 m

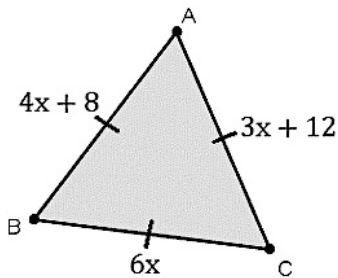New    13.2 m

8.8 m    Original

11. Colton made a scale drawing of the middle school. In real life, the gym is 60 feet wide. It is 15 inches wide in the drawing. What is the scale of the drawing?
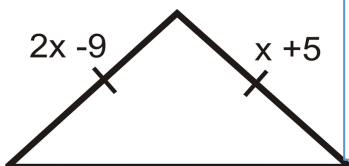
1 in = _____ ft

**Bonus Problems**

12. Find the value x, and determine the length of each side.

A

$4x + 8$    $3x + 12$

B

$6x$    C

What do you know about the triangle that can help you solve for x?

_____

x=_____ , AB=_____ , AC=_____ , CB=_____

13. Find the value of x and determine the length of each side.

$2x -9$    $x +5$

What do you know about the triangle that can help you solve for x? _____

$x =$ _____ , $(2x − 9) =$ _____ , $(x + 5) =$ _____