Name: Key Date: _____ Class: _____

Unit 1: Cumulative Review/Study Guide

Transformations:

1. Which of the following transformations would result in similar figures? Circle ALL correct answers.
   - (a.) A translation horizontally 2 units and then dilated with a scale factor of ½. dilation = Similar
   - ~~b.~~ (-x, y-2) reflection over y axis & translation down 2 = congruent
   - ~~c.~~ A reflection across the y axis and a rotation of 180° clockwise. reflection/rotation = congruent
   - ~~d.~~ (-x, -y) (reflection over x & y) = congruent

2. What would be the new coordinates if this figure were transformed using the following rule?

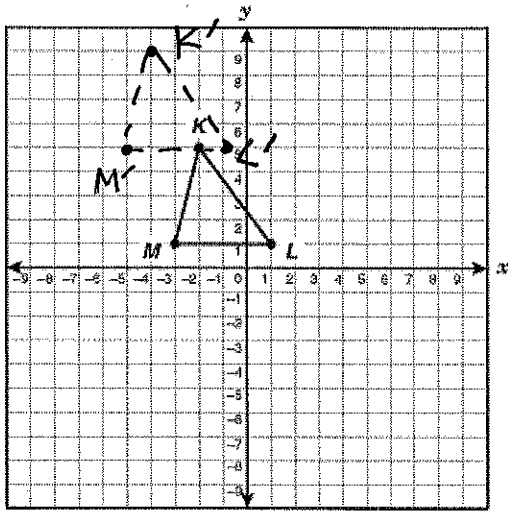
   (x-2, y+4)

   X-2 means translate left 2

   y+4 means translate up 4.

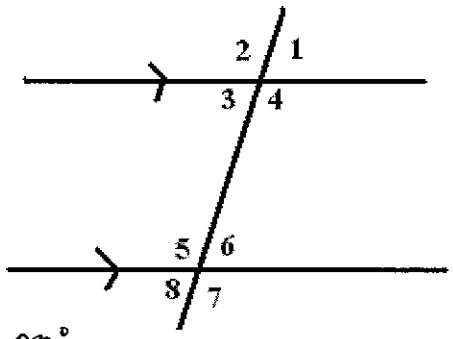
   (subtract 2 from x & add 4 to y)

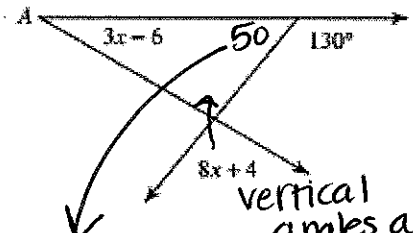
   a. K(4,9), L(3,5), M(5,5)
   (b.) K(-4,9), L(-1,5), M(-5,5)
   c. K(-2,9), L(1,5), M(-3,5)
   d. K(-4,5), L(-1,1), M(-5, 1)




3. Using the picture to the right, determine which of the angles listed below are pairs of congruent angles.
   - ✓ a. ∠3 and ∠6 (alt. interior angles)
   - X b. ∠1 and ∠7 (same side exterior)
   - ✓ c. ∠2 and ∠5 (corresponding)
   - (d.) Both a and c

these are supplementary. They add up to 180°.




4. Solve for the value of x AND give the measure of ∠A.

   x = 12 Now plug it in m∠A = 3X-6 / 3(12)-6 / 36-6 = 30

vertical angles are equal so 3 interior angles:

130 + X = 180
-130 -130
X = 50

(3x-6) + 50 + (8x+4) = 180
angle 1 angle 2 angle 3

combine like terms & solve.

11x + 48 = 180
-48 -48
11x = 132

11x/11 = 132/11
X = 12

5. In the figure below, lines m and n are parallel.

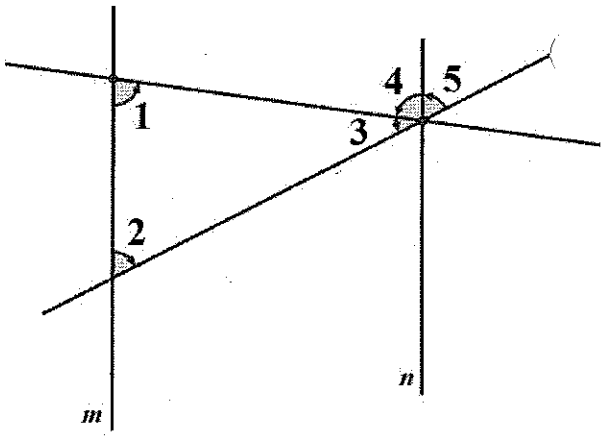
Which valid statement is part of the proof that the sum of the measures of ∠1, ∠2, and ∠3 is 180 degrees?

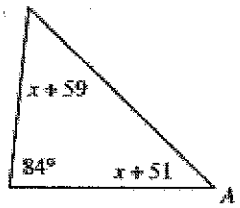
a. ∠1 and ∠4 are congruent because they are alternate interior angles.

b. ∠1 and ∠4 are congruent because they are corresponding angles.

c. ∠2 and ∠4 are congruent because they are alternate interior angles.

d. ∠2 and ∠4 are supplementary because they are alternate interior angles.




6. Using the picture to the left, solve for the value of x and find the measure of ∠A.

x = −7 Now plug in.

m∠A = 44

$x+59+84+x+51=180$

$2x+194=180$

$-194 \quad -194$

$\frac{2x}{2}=\frac{-14}{2}$

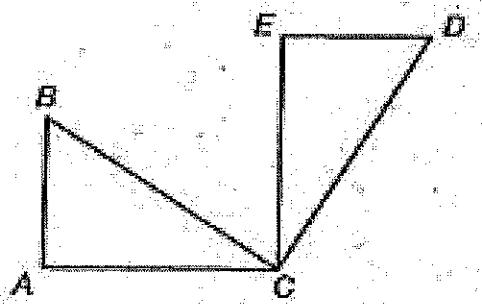
$x=-7$

$x+51$

$-7+51$

Use the picture below for questions 7 and 8.

Triangle *ABC* is rotated 90° clockwise to create Triangle *EDC*.




7. Which angle is congruent to ∠B?

a. ∠BCE

b. ∠ECD

c. ∠E

d. ∠D

8. Which side is congruent to AC?

a. BC

b. EC

c. ED

d. DC

9. The angle measures of a triangle are 2x+5°, 6x-5°, and 7x°. What is the value of x? Show all work and circle your answer.

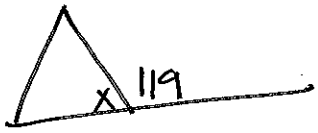
$2x+5+6x-5+7x=180$

$\frac{15x}{15}=\frac{180}{15}$

$x=12$

10. An exterior angle of a triangle measures 119°. What is the measure of the corresponding interior angle?

a. 29° b. 61° c. 69° d. 71°




$x+119=180$

$-119 \quad -119$

$x=61$