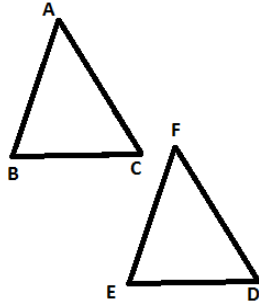


Name: \_\_\_\_\_  
Date: \_\_\_\_\_  
Class: \_\_\_\_\_

Geometry  
Review  
Graded Homework 7

Show all of your work for every problem. The numbers in the brackets are the points that each problem is worth.

1) [3]



$$\triangle ABC \cong \triangle DFE$$

If  $AB = 4x + 1$ ,  $AC = 6x + 11$ ,  $DF = 7x - 14$ ,  
and  $BC = x^2 + 2x - 4$  find the perimeter of triangle DEF.

2) [3] If a triangle has points  $(-4, -5)$ ,  $(6, 1)$ , and  $(2, 9)$  find the area of this triangle.

3) [3] If two points are  $(2a - 4, 4x + 2)$  and  $(3a - 6, 2x - 1)$  find the slope of a line that would be perpendicular to this line.

4) [4] If the hypotenuse of the right triangle is represented by  $21 - 3x$ , while the legs are represented by  $9 - x$  and  $24 - 2x$  find the smallest angle of this triangle.

5) [4] If  $\triangle ABC \sim \triangle EFD$  with a scale factor of 2:5 find DE given the following:  
 $AC = 3x - 12$ ,  $DF = 2x + 22$ , and  $BC = x + 6$ .

6) [3] Find the equation of line that passes through  $(-2, -5)$  which is parallel to a 2<sup>nd</sup> line passing through  $(-6, 7)$  and  $(-1, 5)$ .

7) [4] A dog is barking at a squirrel in a tree. The dog is 25 feet away from the tree and the squirrel is 15 feet off the ground. Find the angle of depression that the squirrel is looking down at the dog with.

8) [3] If  $\cos x = \frac{\sqrt{6}}{5}$  what would  $\sin x = ?$

9) [4]  $\angle QRS$  is bisected by  $\overline{RD}$ .  $m\angle QRD = x^2 + 2x - 28$  and  $m\angle QRS = 15x + 7$ . Find and explain  $m\angle DRS$