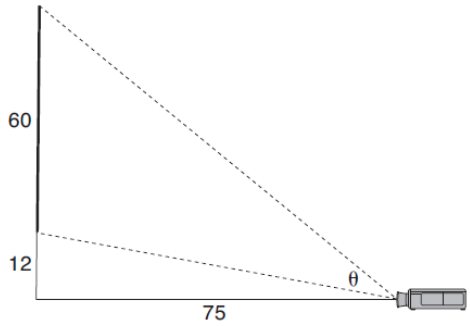
Name: _____ Geometry
Date: _____ Review
Class: _____ Graded Homework 22

Show all of your work for every problem. The numbers in the brackets are the points that each problem is worth. Multiple Choice Problems are worth 3.
NO WORK = ZERO CREDIT

1) [4] A cone has a hemispherical figure attached to its base (the base of the cone and flat surface of the hemispherical figure are exactly the same size). The cone is 15 feet tall and has an angle of elevation (between the slant height and the radius) of 25°. Find the surface are of the 2 figures.

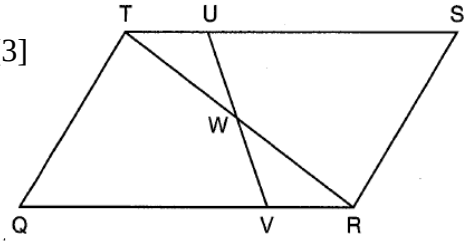
2) [4] As modeled below, a movie is projected onto a large outdoor screen. The bottom of the 60-foot-tall screen is 12 feet off the ground. The projector sits on the ground at a horizontal distance of 75 feet from the screen.



Determine and state, to the *nearest tenth of a degree*, the measure of θ, the projection angle.

3) [4] Line segment ST has a point P on it such that SP:PT = 1:5. Find point P. Create an equation of a line that is perpendicular to segment ST and travels through point P. Point S is located at (-1, 1) and point T is located at (5, 7).

4) [4] Two hexagons are similar. The area of the larger hexagon is 242 square meters and a side of this hexagon is represented by $9x - 3$. The area of a smaller hexagon is 72 and a side of this hexagon is $4x + 2$. Find the length of a side of the larger hexagon.

5) [3] 

In parallelogram TSRQ, m<QTR = 6x – 14 m<WTU = 2x + 8, m<TUW = 10x – 54, and m<TWU = x + 18, find m<S.

6) [4] A line is represented by the equation 6 – y = 2x. If this line is dilated by a scale factor of 2 centered at (1, 1). What is the equation of the newly dilated line?

7) [4] Triangle DEF has points D(2, 4), E(7, 7), F(5, -1) is transformed using $R_{90^\circ} \circ r_{y=-x}$. What are the coordinates of the new triangle?

8) [3] Find the area of the triangle in #7.