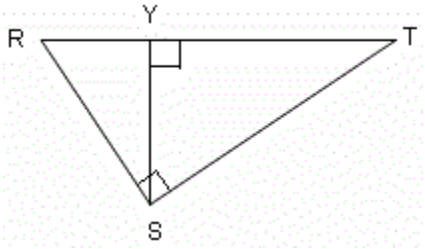
Name: _____ Geometry
Date: _____ Review
Class: _____ Graded Homework 31

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

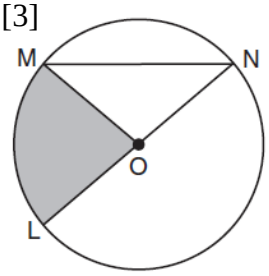
1) [3] Write a composition of transformations (at least 3) which would result in an indirect image that had an area 9 times the pre-image.

2) [4]



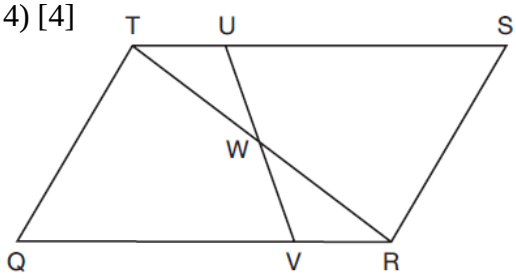
In this diagram, $\overline{RT} \perp \overline{SY}$, RT = 25, and SY = 10. Find ST to the nearest tenth.

3) [3]



$m < MON = 99°$. If the radius of the circle increased from 8 to 15, what was the percent of increase in the area?

4) [4]



Given: $\overline{TR}$ *and* $\overline{UV}$ bisect each other
$\overline{US} \cong \overline{QV}$
Prove: TSRQ is a parallelogram

5) [4] ABCD is a parallelogram with A(1, 1) and C(6, 6). Find the equation of diagonal $\overline{BD}$ if you are told that it passes through (5, 3).

6) [3] Segment TY has endpoints T(-10, -4) and Y(12, 12). Find point S such that ST:SY = 2:3

7) [5] A rhombus (that is not a square) has a corner angle represented by 5x – 6. The diagonal splits this angle so that one part of it can be represented by 2x + 5. If the rhombus has a side length of 14ft, find the length of each diagonal of this rhombus.

8) [4] If 20,000 bacteria lived inside of the following shapes, which would result in a higher density?

Shape 1 – A circle that fits perfectly inside a square, and the square has area of 36 square mm.

Shape 2 – A square that is inscribed in a circle, and the circle has area of 36 square mm.