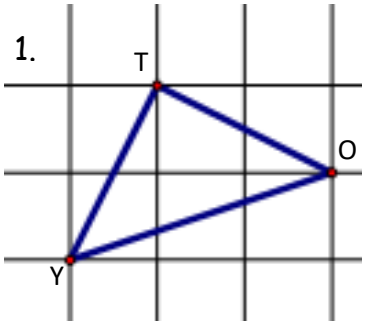
Name: _____ Date: _____ Period: _____ Score: _____

Unit 6 Day 6 - Areas of Right Triangles Assignment

To find the area of a triangle, the side used as the base must be perpendicular to the height.
Label the base and height of each triangle, using slopes to prove they are perpendicular.
Mark the right angle on each triangle. Then FIND THE AREA (exact and approximate, if necessary.)

1.



a) Slope of $\overline{TO}$ b) Slope of $\overline{OY}$ c) Slope of $\overline{TY}$

d) Is this a right triangle?

e) Label the base and height. Mark the right angle.

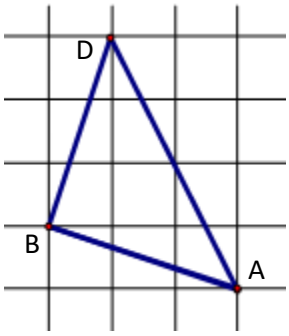
f) EXACT length of the base:

g) EXACT length of the height:

h) Area of the triangle:

Mistakes are opportunities for learning.

2.



a) Slope of $\overline{BD}$ b) Slope of $\overline{DA}$ c) Slope of $\overline{AB}$

d) Is this a right triangle?

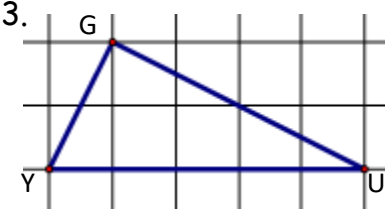
e) Label the base and height. Mark the right angle.

f) EXACT length of the base:

g) EXACT length of the height:

h) Area of the triangle:

3.



a) Slope of $\overline{GU}$ b) Slope of $\overline{UY}$ c) Slope of $\overline{YG}$

d) Is this a right triangle?

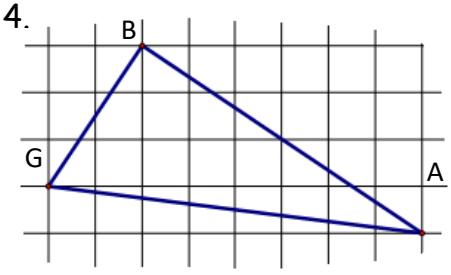
e) Label the base and height. Mark the right angle.

f) EXACT length of the base:

g) EXACT length of the height:

h) Area of the triangle:

4.



a) Slope of $\overline{BA}$ b) Slope of $\overline{AG}$ c) Slope of $\overline{BG}$

d) Is this a right triangle?

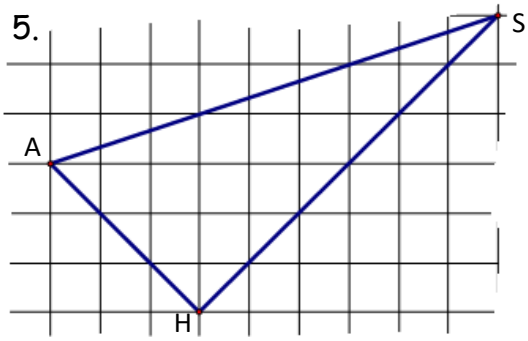
e) Label the base and height. Mark the right angle.

f) EXACT length of the base:

g) EXACT length of the height:

h) Area of the triangle:

5.



a) Slope of $\overline{AS}$ b) Slope of $\overline{SH}$ c) Slope of $\overline{HA}$

d) Is this a right triangle?

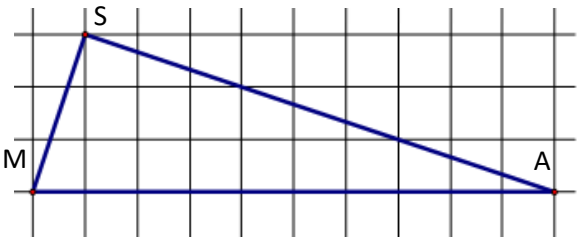
e) Label the base and height. Mark the right angle.

f) EXACT length of the base:

g) EXACT length of the height:

h) Area of the triangle:

6.



a) Slope of $\overline{SA}$ b) Slope of $\overline{AM}$ c) Slope of $\overline{MS}$

d) Is this a right triangle?

e) Label the base and height. Mark the right angle.

f) EXACT length of the base:

g) EXACT length of the height:

h) Area of the triangle:

7. Find a different way to calculate the area for #6, by using a different base and height.

Explain why the other method is also valid:

Simplify these expressions:

8. $\sqrt{49} + 8$

9. $4 + \sqrt{3} + \sqrt{64} + \sqrt{3}$

10. $\sqrt{36} * \sqrt{4}$

11. $\sqrt{18}$

12. $2 + \sqrt{8} + \sqrt{2} + \sqrt{9}$

13. $\frac{\sqrt{50} \cdot \sqrt{8}}{2}$