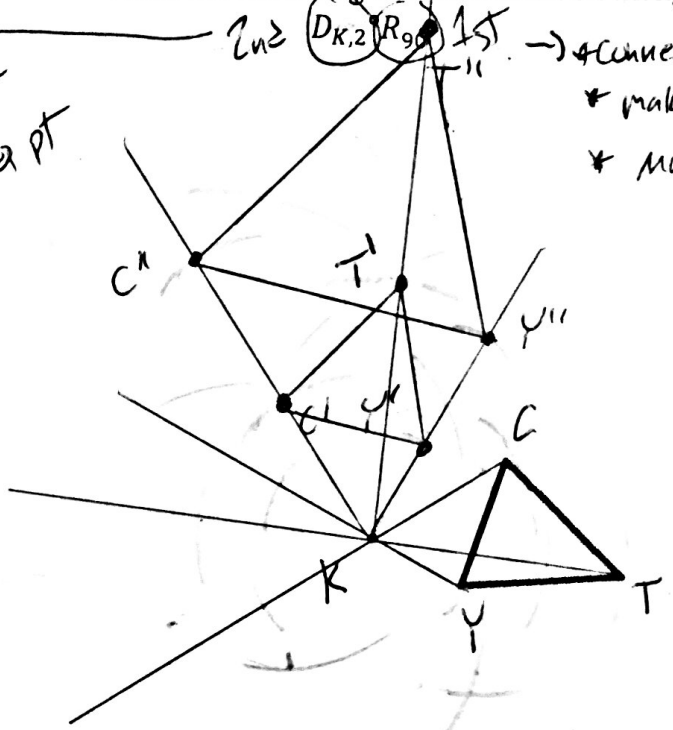
Name: _____
Date: _____
Class: _____

Geometry
Unit C
EC

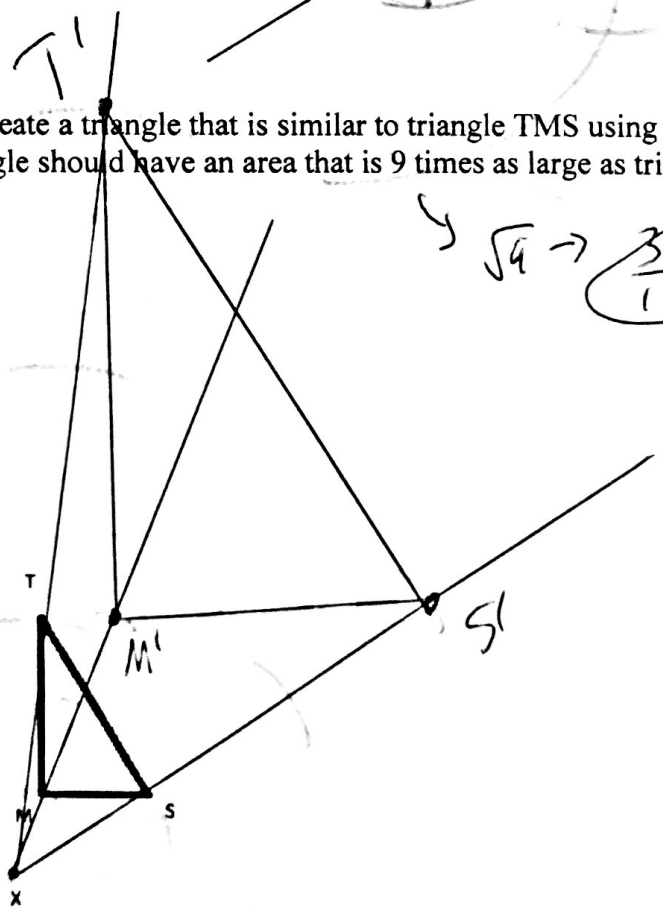
1) Label the vertices of the following triangle C, T, and Y. The other point in the diagram is point K. Construct the following transformation on triangle CTY:



* Connect K Through pt
* measure dist from K to pt
* double it

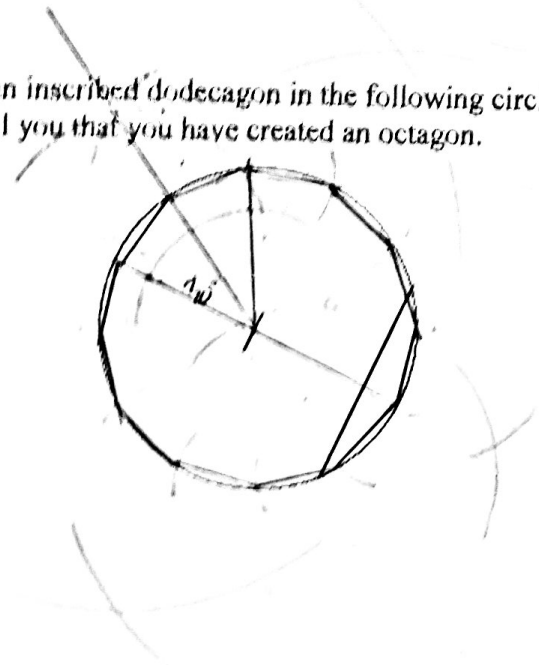
→ connect each pt Through center
* make 90° ∠ CCW
* make dist same

2) Create a triangle that is similar to triangle TMS using X as the center. Your new triangle should have an area that is 9 times as large as triangle TMS.



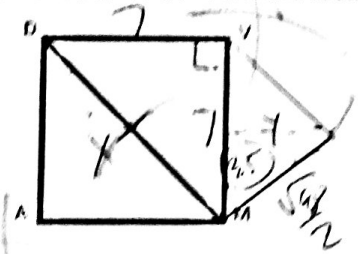
$\sqrt{9} \rightarrow \frac{3}{1}$ SF

3) Create an inscribed dodecagon in the following circle. Explain how the arcs between 2 vertices tell you that you have created an octagon.



$\frac{360}{12} = 30°$ arcs

4) Create an isosceles triangle on segment MV of the following square. The legs of the new isosceles triangle should be half as long as segment DM. If the area of square DVMA is $49in^2$ find the area of the new triangle you created in simplest radical form.



$A = s^2$

$\sqrt{49} = \sqrt{s^2}$

$s = 7$

$7^2 + 7^2 = x^2$

$\sqrt{98} = \sqrt{x^2}$

$x = \sqrt{98}$

legs of iso Δ are $\frac{1}{2}$

$\frac{\sqrt{98}}{2}$

Need height iso Δ

$(3.5)^2 + y^2 = \left(\frac{\sqrt{98}}{2}\right)^2$

$\sqrt{y^2} = \sqrt{12.25}$

$y = \sqrt{12.25}$

$A = \frac{1}{2}(7)(\sqrt{12.25})$

$A = 3.5\sqrt{12.25}$

$A = 3.5(3.5)$

$A = 12.25$