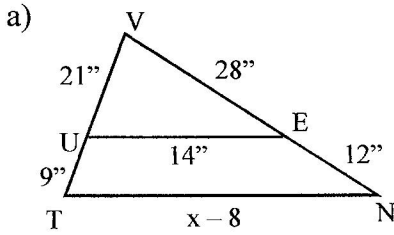


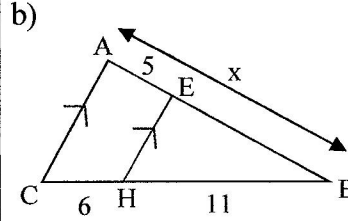
Module 7 Review

Show all work and reasoning. Use a pencil and highlight your answers.

1. Prove that there are similar triangles, then set up a proportion and solve for x.



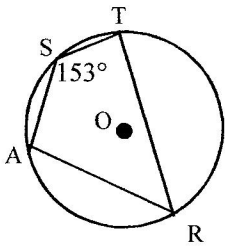
Statement	Reason



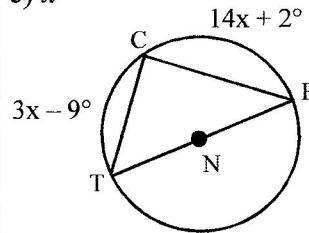
Statement	Reason

2. Solve for the measure of the indicated angle, arc, side, or variable. Justify your reasoning.

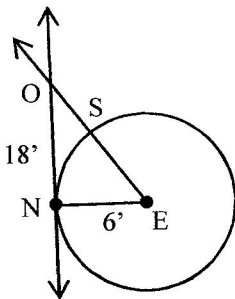
a) $m\angle TRA$



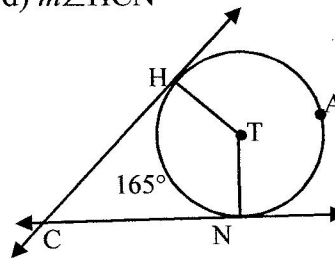
c) x



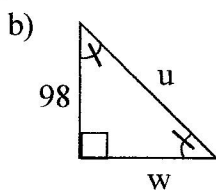
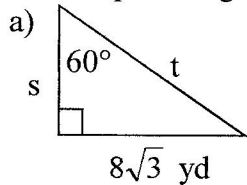
c) OE



d) $m\angle HCN$

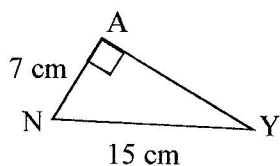


3. Use special right triangles to solve for the variables.

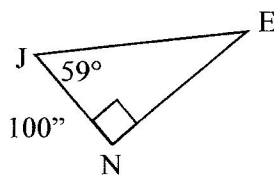


4. Solve for the measure of the angle or side.

a) $m\angle AYN$



b) JE



5. A plane begins its descent 80 miles (horizontally) from Linbergh Field. If the angle of descent is 4.7° , what is the altitude of the plane *in feet*? Include a detailed sketch.

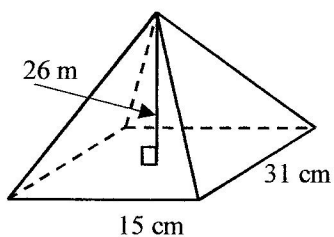
6. Suppose a pyramid is an enlargement of another pyramid by a scale factor of 4.

a) What is the ratio of the perimeters of a pair of corresponding triangular faces?

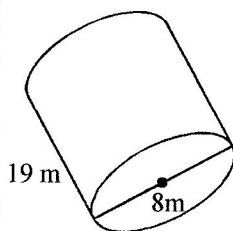
b) What is the ratio of the total surface areas?

c) What is the ratio of the volumes?

7. Calculate the volume of the pyramid.

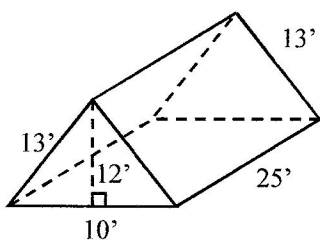


8. Calculate the total surface area of the cylinder.

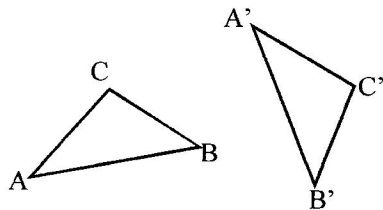


9. Calculate the total surface area and volume of the triangular prism.

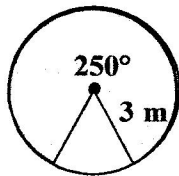
a) Triangular prism



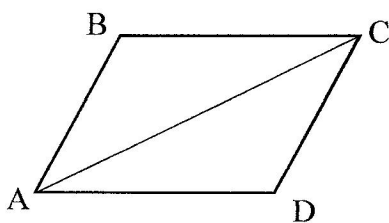
10. Use *constructions* to determine the center of rotation. Show your point is correct by drawing the circle that the points are rotated around.



11 Calculate the area of the shaded region and its arc length.



12. Prove that if opposite sides of a quadrilateral are congruent, then the quadrilateral is a parallelogram.



ABCD is a quadrilateral with
 $\overline{BC} \cong \overline{DA}$ and $\overline{AB} \cong \overline{CD}$

$\triangle ABC \cong$ _____

$\angle BAC \cong$ _____

$\overline{AB} \parallel \overline{DC}$

$\angle BCA \cong$ _____

Converse of _____

13. Given a circle with a radius of 17 inches, find the area and perimeter of an inscribed regular tricontakaihexagon (36-gon).