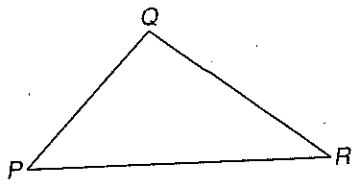
NAME _____ DATE _____ PERIOD _____

Open-Ended Assessment

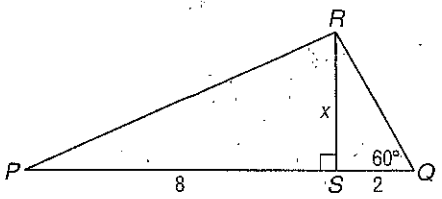
SCORE _____

Sketch two triangles that are *not* similar, but have one pair of corresponding angles congruent and two pairs of corresponding sides proportional. Label the corresponding angles and the proportional sides.



→ without measuring

Draw $\triangle XYZ$ inside $\triangle PQR$ with half the perimeter of $\triangle PQR$. Explain your process and why it works.



a. Max used the following equations to find x in $\triangle PQR$. Is Max correct? Why or why not?

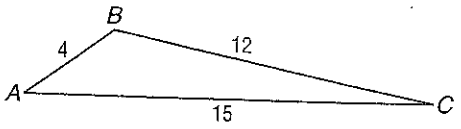
$$\frac{2}{x} = \frac{x}{8}$$
$$x^2 = 2 \cdot 8$$
$$x^2 = 16$$
$$x = 4$$

b. For $\angle PRQ$ to be a right angle, what would the measure of $\overline{PS}$ have to be?

→ without using a protractor

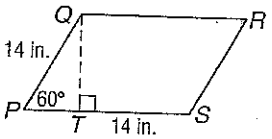
c. Is $\triangle PRS$ a 45°-45°-90° triangle? How do you know?

Irina is solving $\triangle ABC$. She plans to first use the Law of Sines to find two of the angles. Is Irina's plan a good one? Why or why not? → If not provide an alternative plan & show the math.



Draw an example to show why *one pair of opposite sides congruent and the other pair of opposite sides parallel* is not sufficient to form a parallelogram.

a. Explain how a 30°-60°-90° triangle is used in finding the area of parallelogram $PQRS$.



b. Find the area of parallelogram $PQRS$ to the nearest tenth.