Name_____Date_____

Geometry

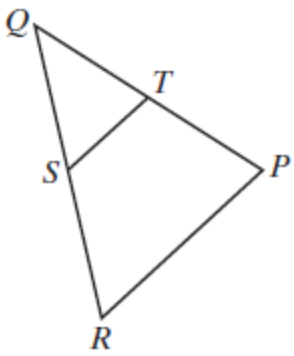
Day 4:

Warm ups

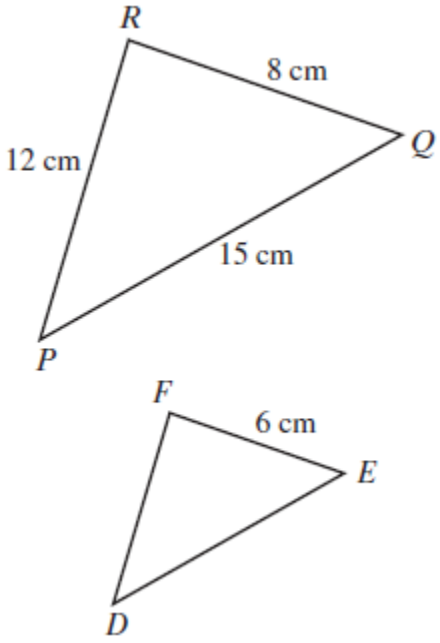
1. In $\triangle PQR$, S is the midpoint of $\overline{RQ}$ and T is the midpoint of $\overline{PQ}$.

   $RP = 7x + 5 \quad ST = 4x - 2 \quad SR = 2x + 1 \quad PQ = 9x + 1$

   Find ST, RP, SR, RQ, PQ, and TQ.



2. The lengths of the sides of $\triangle PQR$ are $PQ = 15$ cm, $QR = 8$ cm, and $RP = 12$ cm. If $\triangle PQR \sim \triangle DEF$ and the length of the smallest side of $\triangle DEF$ is 6 centimeters, find the measures of the other two sides of $\triangle DEF$.



Practice with Ratios:

1. **NUTRITION** One ounce of cheddar cheese contains 9 grams of fat. Six of the grams of fat are saturated fats. Find the ratio of saturated fats to total fat in an ounce of cheese.

2. **FARMING** The ratio of goats to sheep at a university research farm is 4:7. The number of sheep at the farm is 28. What is the number of goats?

3. **QUALITY CONTROL** A worker at an automobile assembly plant checks new cars for defects. Of the first 280 cars he checks, 4 have defects. If 10,500 cars will be checked this month, predict the total number of cars that will have defects.

Solve each proportion.

4. $\frac{5}{8} = \frac{x}{12}$

5. $\frac{x}{1.12} = \frac{1}{5}$

6. $\frac{6x}{27} = 43$

7. $\frac{x+2}{3} = \frac{8}{9}$

8. $\frac{3x-5}{4} = \frac{-5}{7}$

9. $\frac{x-2}{4} = \frac{x+4}{2}$

10. The ratio of the measures of the sides of a triangle is 3:4:6, and its perimeter is 104 feet. Find the measure of each side of the triangle.

11. The ratio of the measures of the sides of a triangle is 7:9:12, and its perimeter is 84 inches. Find the measure of each side of the triangle.

12. The ratio of the measures of the sides of a triangle is 6:7:9, and its perimeter is 77 centimeters. Find the measure of each side of the triangle.

13. The ratio of the measures of the three angles is 4:5:6. Find the measure of each angle of the triangle.

14. The ratio of the measures of the three angles is 5:7:8. Find the measure of each angle of the triangle.

15. BRIDGES A construction worker is placing rivets in a new bridge. He uses 42 rivets to build the first 2 feet of the bridge. If the bridge is to be 2200 feet in length, predict the number of rivets that will be needed for the entire bridge.