Also, online Quizzes

Geometry Quiz Review: 7-1, 7-2, & 7-3

Solve the following proportions.

1. $\frac{3x-5}{4} = \frac{-5}{7}$ $21x = 15$ $x = \frac{5}{7}$
   $7(3x-5) = -20$
   $21x - 35 = -20$

2. $\frac{15}{3} = \frac{x-3}{5}$ $3(x-3) = 75$ $x - 3 = 25$ $x = 28$

3. $\frac{x-2}{4} = \frac{x+4}{2}$ $2x - 4 = 4x + 16$ $-20 = 2x$ $x = -10$

4. Out of 274 listed species of birds in the United States, 78 species made the endangered list. Find the ratio of endangered species of birds to listed species in the United States. $\frac{78}{274} = \frac{39}{137}$

5. 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. $\frac{6}{9} = \frac{2}{3}$

6. 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. $\frac{4}{280} = \frac{x}{10500}$ $280x = 42000$ $x = 150$

7. The ratio of the measures of the sides of a triangle is 3:5:7, and its perimeter is 450 centimeters. Find the measures of each side of the triangle.

8. The ratio of the measures of the sides of a triangle is 5:6:9, and its perimeter is 220 meters. What are the measures of the sides of the triangle?

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

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

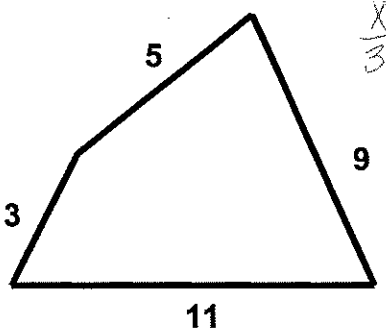
Find the lengths of sides x, y, and z in the similar polygons below.

11.

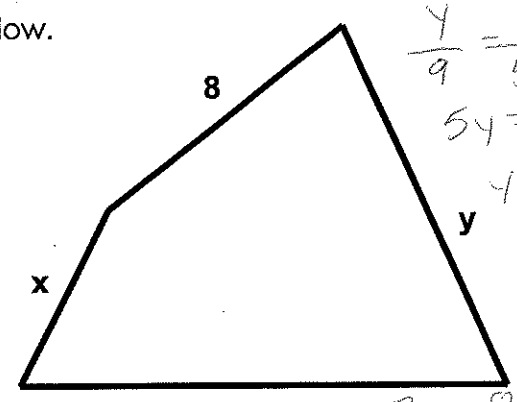
x = 4.8

y = 14.4

z = 17.6



$\frac{x}{3} = \frac{8}{5}$ $5x = 24$ $x = 4.8$



$\frac{y}{9} = \frac{8}{5}$ $5y = 72$ $y = 14.4$

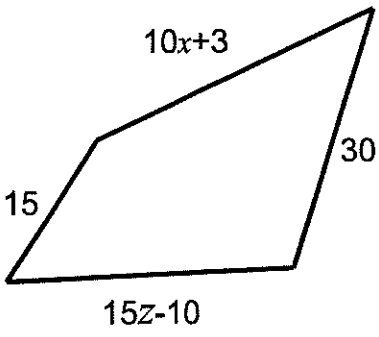
$\frac{z}{11} = \frac{8}{5}$ $5z = 88$ $z = 17.6$

12.

x = 2.7

y = 30

z = 2.5

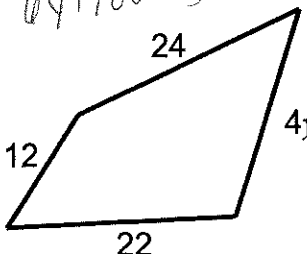


$\frac{15z-10}{22} = \frac{15}{12}$

$180z - 120 = 330$

$\frac{4y+12}{30} = \frac{12}{15}$

$60y + 180 = 360$



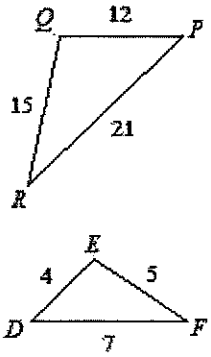
$\frac{10x+3}{24} = \frac{15}{12}$

$120x + 36 = 360$

$120x = 324$

For questions 13-20, determine whether the triangles are similar. If so, complete the similarity statement and explain your reasoning (AA Similarity Postulate, SSS Similarity Theorem, or SAS Similarity Theorem).

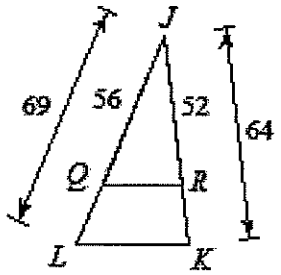
13. $\Delta PQR \sim$ $\triangle DEF$ by SSS~



$\frac{21}{7} = \frac{15}{5} = \frac{12}{4}$

3 - 3 - 3 ✓

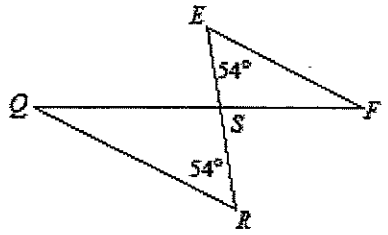
14. $\Delta QJR \sim$ ~~$\triangle QJR$~~ by SAS Not Similar



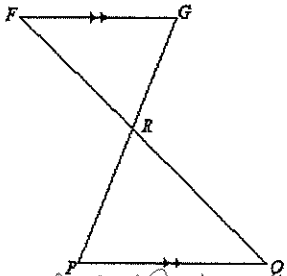
$\frac{56}{69} = \frac{52}{64}$

$\frac{56}{69} \neq \frac{13}{16}$

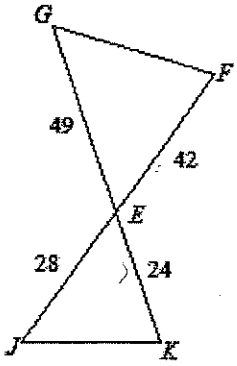
15. $\Delta QSR \sim$ $\triangle FSE$ by AA~



16. $\Delta FGR \sim$ $\triangle PRQ$ by AA~



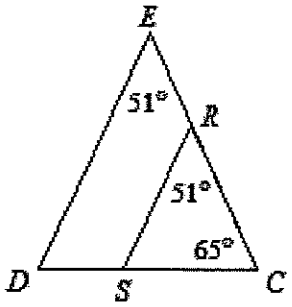
17. $\Delta JEK \sim$ $\triangle GEF$ by SAS~



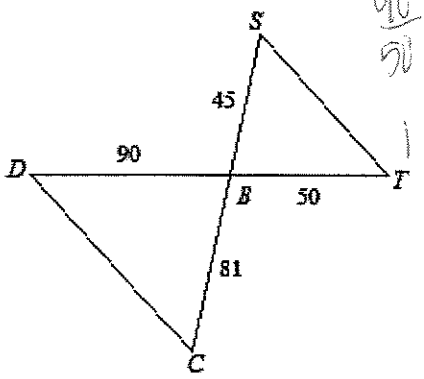
$\frac{49}{28} = \frac{42}{24}$

$1\frac{3}{4} = 1\frac{3}{4}$

18. $\Delta CED \sim$ $\triangle CAB$ by AA~



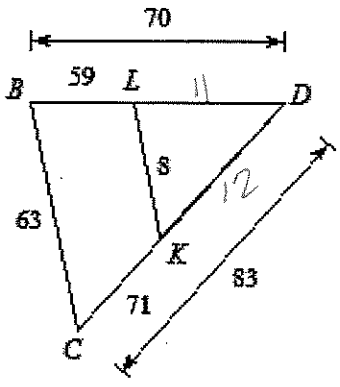
19. $\Delta DBC \sim$ $\triangle TBS$ by SAS



$\frac{90}{50} = \frac{81}{45}$

$1\frac{4}{5} = 1\frac{4}{5}$

20. $\Delta BDC \sim$ _____ Not Similar



$\frac{11}{70} \neq \frac{12}{83}$