Chapter 7

Indicate the best answer by writing the appropriate letter.

1. If the measures of the angles of a triangle are in the ratio 3:3:4, what is the measure of the largest angle of the triangle?
   a. 40 **b.** 54 **c.** 72 **d.** 90

2. If $\triangle ABC \sim \triangle JOT$, which of these is a correct proportion?
   a. $\frac{BC}{AC} = \frac{JT}{OT}$ **b.** $\frac{AB}{JT} = \frac{AC}{JO}$ **c.** $\frac{AB}{BC} = \frac{OT}{JT}$ **d.** $\frac{AC}{JT} = \frac{BC}{OT}$

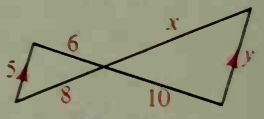
3. If $\frac{a}{b} = \frac{x}{y}$, what does $\frac{y}{b}$ equal?
   a. $\frac{x}{a}$ **b.** $\frac{a}{x}$ **c.** $\frac{y}{x}$ **d.** $\frac{b}{y}$

4. $\triangle ABC \sim \triangle DEF$, $AB = 8$, $BC = 12$, $AC = 16$, and $DE = 12$. What is the perimeter of $\triangle DEF$?
   a. 36 **b.** 40 **c.** 48 **d.** 54

5. Which of the following pairs of polygons *must* be similar?
   a. two rectangles **b.** two regular hexagons
   c. two isosceles triangles **d.** two parallelograms with a 60° angle

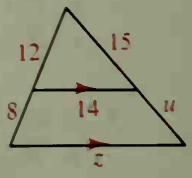
6. Quad. $GHJK \sim$ quad. $RSTU$, $GH = JK = 10$, $HJ = KG = 14$, and $RS = TU = 16$. What is the scale factor of quad. $GHJK$ to quad. $RSTU$?
   a. $\frac{5}{7}$ **b.** $\frac{5}{8}$ **c.** $\frac{7}{8}$ **d.** $\frac{16}{10}$

7. Which of the following can you use to prove that the two triangles are similar?
   a. SAS Similarity Theorem **b.** AA Similarity Postulate
   c. SSS Similarity Theorem **d.** Def. of similar triangles



Exs. 7, 8

8. Which statement is correct?
   a. $\frac{6}{10} = \frac{8}{x}$ **b.** $\frac{6}{8} = \frac{x}{10}$ **c.** $6 \cdot 10 = 8x$ **d.** $\frac{5}{y} = \frac{8}{10}$



Exs. 9, 10

9. What is the value of u?
   a. 8 **b.** 10 **c.** 16 **d.** 25

10. What is the value of z?
    a. 25 **b.** 28 **c.** $\frac{28}{3}$ **d.** $\frac{70}{3}$

11. In $\triangle APC$, the bisector of $\angle P$ meets $\overline{AC}$ at B. $PA = 30$, $PC = 50$, and $AB = 12$. What is the length of $\overline{BC}$?
    a. $\frac{36}{5}$ **b.** 12 **c.** 20 **d.** 32

12. If $\triangle RST \sim \triangle XYZ$, what is the ratio of $m\angle S$ to $m\angle Y$?
    a. $m\angle R : m\angle Z$ **b.** 1:1 **c.** $RS:XY$ **d.** not enough information