

Answer Key

Lesson 6.5

Practice Level A

1. $\frac{AB}{DE} = \frac{12}{8} = \frac{3}{2}$, $\frac{AC}{DF} = \frac{9}{6} = \frac{3}{2}$, $\frac{BC}{EF} = \frac{15}{10} = \frac{3}{2}$,

so $\triangle ABC \sim \triangle DEF$ by SSS Similarity Thm.;

Scale factor: $\frac{3}{2}$

2. $\frac{AB}{DE} = \frac{21}{28} = \frac{3}{4}$, $\frac{AC}{DF} = \frac{18}{24} = \frac{3}{4}$, $\frac{BC}{EF} = \frac{33}{44} = \frac{3}{4}$,

so $\triangle ABC \sim \triangle DEF$ by SSS Similarity Thm.;

Scale factor: $\frac{3}{4}$ 3. $\triangle DEF \sim \triangle HGI$; $\frac{2}{1}$

4. $\triangle ABC \sim \triangle GHJ$; $\frac{4}{5}$

5. $\frac{RS}{XY} = \frac{4}{6} = \frac{2}{3}$, $\frac{ST}{YZ} = \frac{6}{9} = \frac{2}{3}$, so two pairs of sides

are proportional. Because the included angles $\angle S$ and $\angle Y$ are right angles, they are congruent. Therefore, $\triangle RST \cong \triangle XYZ$ by SAS Similarity

Thm.; scale factor: $\frac{2}{3}$

6. $\frac{RT}{XZ} = \frac{28}{16} = \frac{7}{4}$, $\frac{ST}{YZ} = \frac{21}{12} = \frac{7}{4}$, so two pairs of

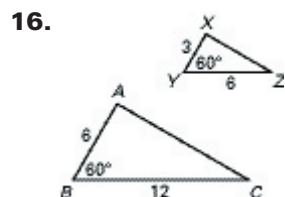
sides are proportional, and their included angles are congruent ($\angle T \cong \angle Z$). Therefore, $\triangle RST \cong \triangle XYZ$ by SAS Similarity Thm.;

scale factor: $\frac{7}{4}$ 7. $\triangle JKL \sim \triangle TUV$; $\frac{9}{5}$ 8. no

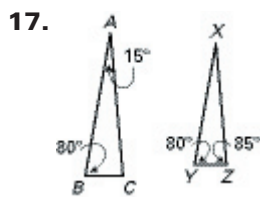
9. yes; $\triangle CDG \sim \triangle CEF$; $\frac{5}{9}$ 10. no

11. yes; SSS Similarity Thm. 12. yes; SAS Similarity Thm. 13. no 14. yes; SSS Similarity Thm.

15. yes; SAS Similarity Thm.



SAS Similarity Thm



AA Similarity Post.

18. a. AA Similarity Post. b. *Sample answer:* Use the similar triangles to set up the proportion

$$\frac{1}{10} = \frac{28}{8}; 35 \text{ ft}$$