

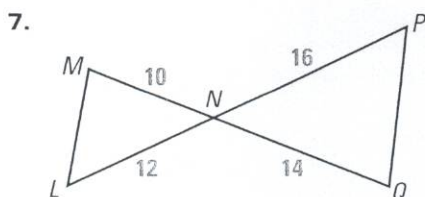
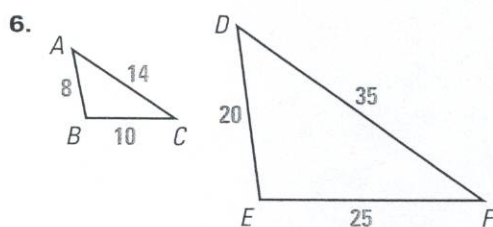
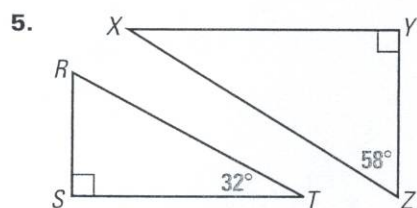
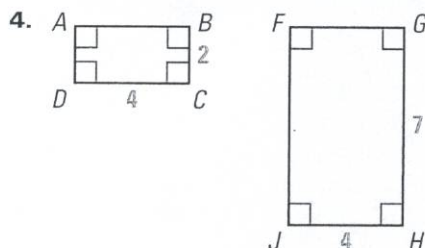
1. The height-to-length ratio of a brick wall is 3 : 20. The wall is 40 feet long. How high is it?

Solve the proportion.

2. $\frac{2}{9} = \frac{x}{27}$

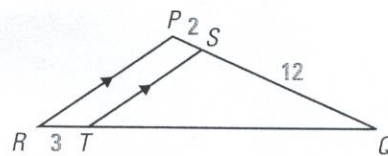
3. $\frac{x-3}{35} = \frac{4}{7}$

Determine whether the polygons are similar. If they are similar, write a similarity statement.

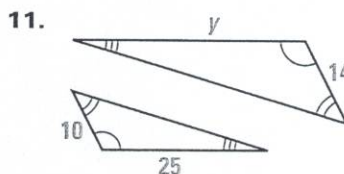


8. QRST is similar to WXYZ. The ratio of QR to WX is 3 : 7. What is the ratio of the perimeter of QRST to the perimeter of WXYZ?

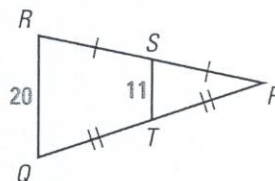
9. Find TQ in the figure below.



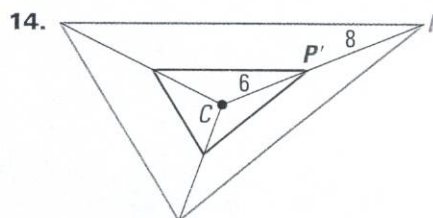
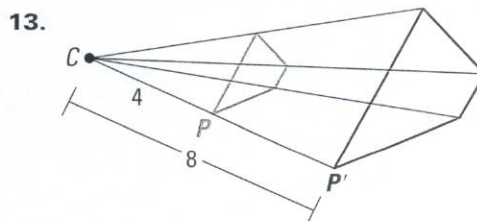
In Exercises 10 and 11, find the value of the variable.



12. What is wrong with the figure below?



Determine whether the dilation is a *reduction* or an *enlargement*. Then find its scale factor.



Test Tip

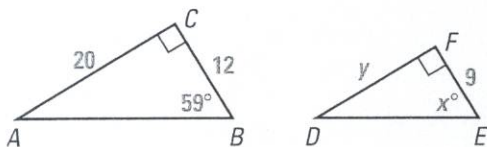
A B C D

Scan all the questions in the section you are working on. This can help you see easy questions and plan how to spend your time.

1. Simplify the ratio $\frac{16 \text{ ft}}{4 \text{ yd}}$.

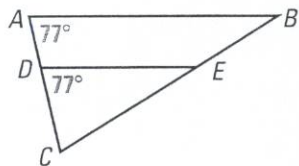
(A) $\frac{1}{4}$ (B) $\frac{4}{3}$ (C) $\frac{4}{1}$ (D) $\frac{3}{4}$

2. $\triangle ABC$ is similar to $\triangle DEF$. What are the values of x and y ?



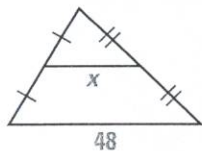
(F) $x = 31, y = 15$ (G) $x = 59, y = 15$
(H) $x = 59, y = 16$ (J) $x = 31, y = 12$

3. Which of the following statements is *false*?



(A) $\frac{CD}{CA} = \frac{CE}{CB}$ (B) $\angle DEC \cong \angle ABC$
(C) $\triangle ACB \sim \triangle DCE$ (D) $\triangle BAC \sim \triangle DEC$

4. What is the value of x in the diagram?



(F) 8 (G) 12 (H) 24 (J) 96

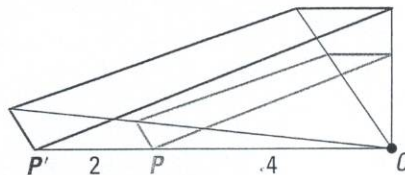
5. Solve the proportion $\frac{x+4}{18} = \frac{11}{6}$.

(A) 24 (B) 29 (C) 33 (D) 37

6. You want to enlarge a drawing of a car that is 4 inches long. Your enlargement will be 12 inches long. What is the scale factor of the enlargement to the drawing?

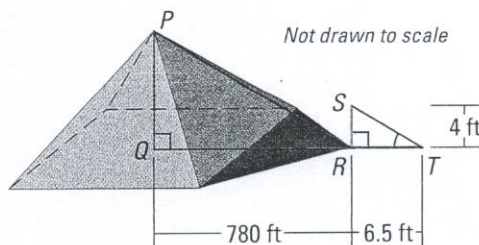
(F) 3 to 1 (G) 4 to 1
(H) 1 to 3 (J) 1 to 4

7. Determine whether the dilation is a reduction or enlargement. Then find its scale factor.



(A) enlargement; $\frac{2}{3}$ (B) enlargement; $\frac{3}{2}$
(C) reduction; $\frac{2}{3}$ (D) reduction; $\frac{3}{2}$

8. **Multi-Step Problem** The Greek mathematician Thales calculated the height of the Great Pyramid in Egypt by placing a rod at the tip of the pyramid's shadow and using similar triangles as shown.



- a. Explain why $\triangle PQR$ is similar to $\triangle SRT$.
b. Find the scale factor of $\triangle PQR$ to $\triangle SRT$.
c. Find the height of the Great Pyramid.