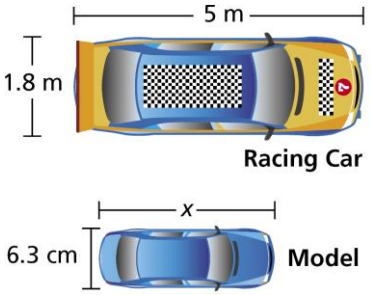
Similarity Practice #1-13

1. Find the length of the model to the nearest tenth of a centimeter.



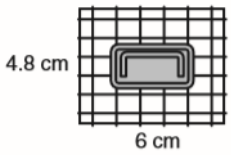
2. A railbox boxcar can be used to transport auto parts. If the length of the actual boxcar is 50 ft, find the width of the actual boxcar to the nearest tenth of a foot.

Model Boxcar

3. **Determine if each statement is sometimes, always, or never true. Support your answer with a diagram and explanation.**

A. Two right triangles are similar
B. Two squares are similar
C. A parallelogram and a trapezoid are similar
D. If two polygons are congruent, they are also similar
E. If two polygons are similar, they are also congruent
F. Any two regular polygons with the same number of sides are similar

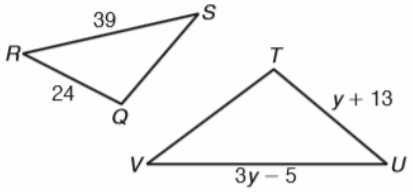
4. A pet store has various sizes of guinea pig cages. A diagram of the top view of one of the cages is shown. What are possible dimensions of this cage?



A 28 in. by 24 in.
B 28 in. by 18 in.
C 30 in. by 24 in.
D 30 in. by 18 in.

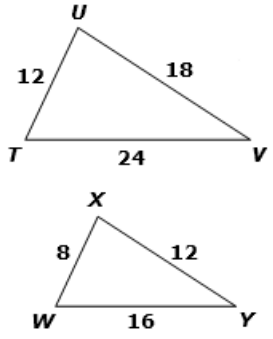
5. An architect is designing a building that is 200 ft long and 140 ft wide. She builds a model so that the similarity ratio of the model to the building is 1/500. What is the length and width of the model in inches?

6. $\triangle QRS \sim \triangle TUV$. Find the value of y.



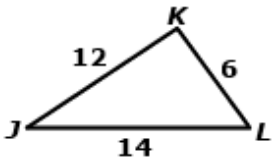
A 3.6
B 5.5
C 19
D 33

7. Based on the triangles shown, Theodore claims that ΔTUV is similar to ΔWXY with a scale factor of 3:2. Is Theodore correct?

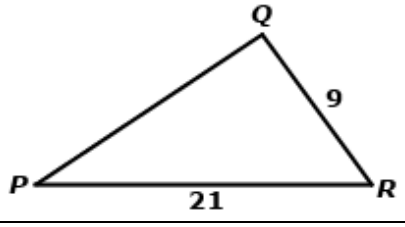


A. Yes, the triangles are similar with a scale factor of 3:2.
B. No, the triangles are similar with a scale factor of 2:1.
C. No, the triangles are similar with a scale factor of 2:3.
D. No, the triangles are similar with a scale factor of 4:3

8. What must be the length of PQ in order for ΔJKL to be similar to ΔPQR?



A. 8
B. 15
C. 18
D. 19



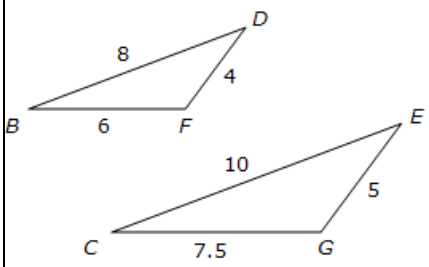
9. In order for two triangles to be similar, all corresponding pairs of **angles** must be:

A. Adjacent
B. Congruent
C. Proportional
D. Supplementary

10. In order for two triangles to be similar, all corresponding pairs of **sides** must be:

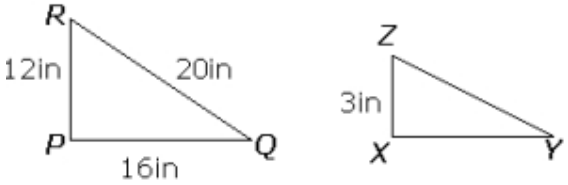
A. Adjacent
B. Congruent
C. Proportional
D. Supplementary

11. If ΔBDF is similar to ΔCEG, what is the ratio from ΔBDF to ΔCEG?



A. 1:2
B. 2:1
C. 4:5
D. 5:4

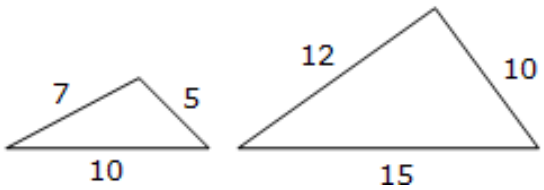
12. Triangle PQR is similar to triangle XYZ. What is the perimeter of triangle XYZ?



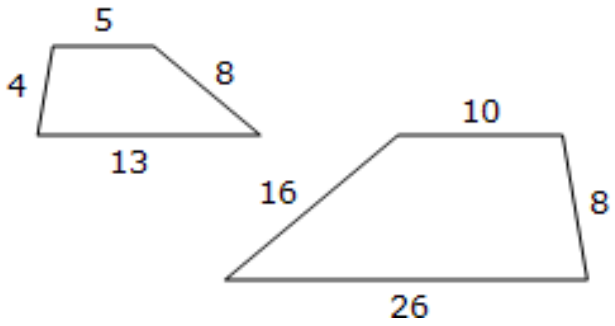
A. 3 in
B. 4 in
C. 12 in
D. 16 in

13. Which pair of the following figures is similar?

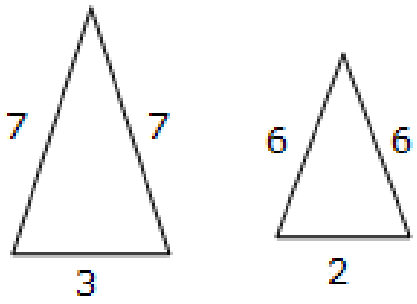
A.



B.



C.



D.