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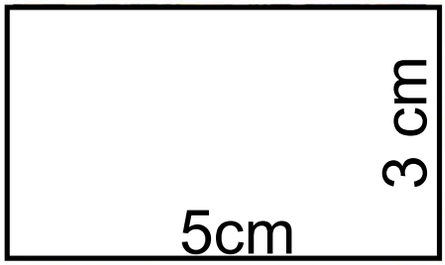
1. This photo of participants in the Arctic Winter Games is to be enlarged.



Measure the photo. What are the dimensions of the enlargement for each scale factor?

a) 3 b) 2.5 c) $\frac{3}{2}$ d) $\frac{21}{5}$

a) b)

c) d)

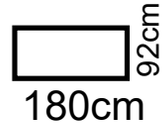
7.2

3. A full-size pool table has dimensions approximately 270 cm by 138 cm. A model of a pool table has dimensions 180 cm by 92 cm.

a) What is the scale factor for this reduction?

b) A standard-size pool cue is about 144 cm long. What is the length of a model of this pool cue with the scale factor from part a?

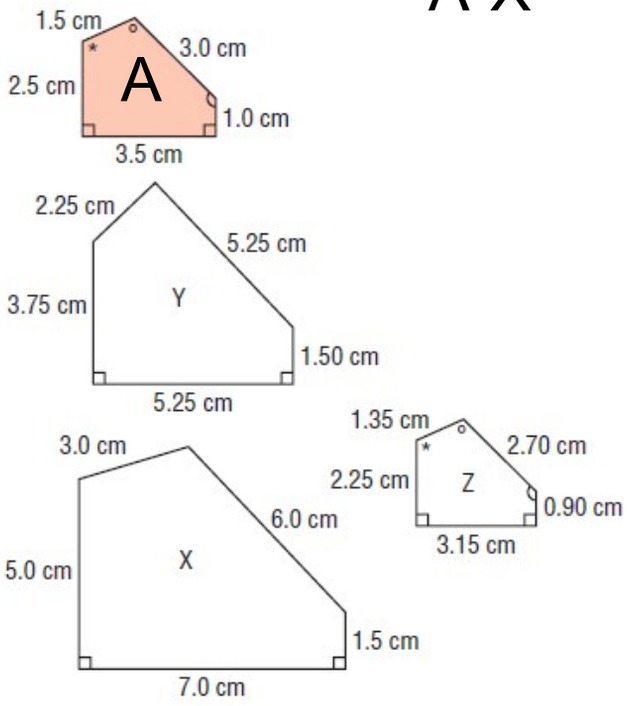
a)



b)

6. Which pentagon is similar to the red pentagon? Justify your answer.

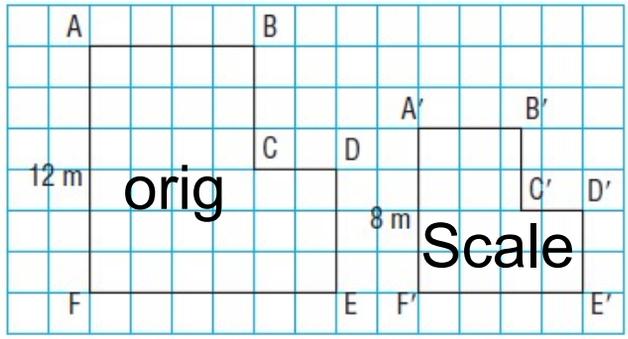
A-X



A-Z

A- Y

7. These two courtyards are similar.



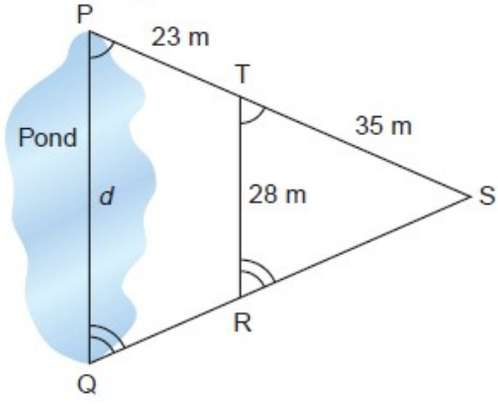
Determine each length. 7.5

a) BC b) B′C′ c) A′B′

These shapes are similar

7.4

9. To determine the distance, d, across a pond, Ari uses this diagram. What is the distance across the pond?

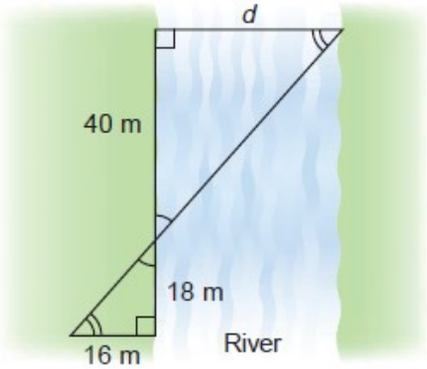


Prove Similarity

State Ratio's

Solve

10. This scale diagram shows a surveyor's measurements taken to determine the distance across a river. What is the approximate distance across the river?



State Ratio's

Solve

12. Which of these traffic signs have line symmetry? How many lines of symmetry in each case?

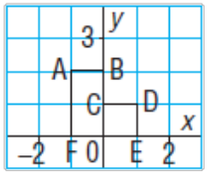
a) 

b) 

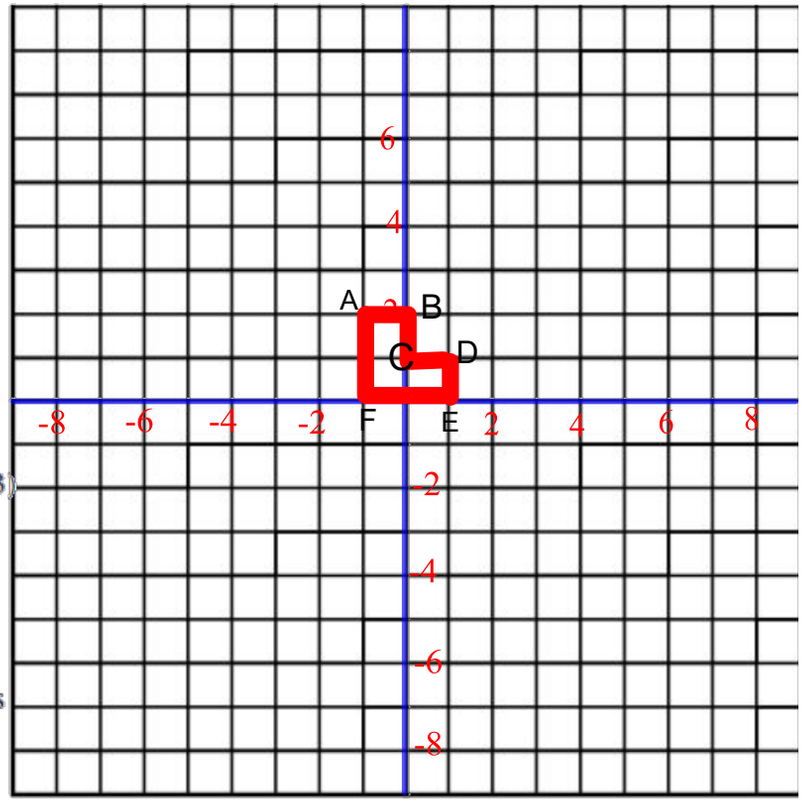
c) 

d) 

3. Hexagon ABCDEF is a part of a larger shape. Copy the hexagon on a grid.



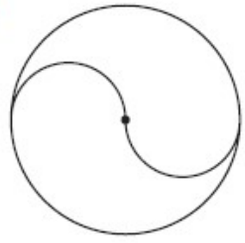
a) Complete the shape by reflecting the hexagon:
   i) in the y-axis
   ii) in the x-axis
   iii) in the line through $(-2, -1)$ and $(2, 3)$
b) Complete the shape with a translation R2.
c) List the ordered pairs of the vertices of each completed shape.
d) State whether each completed shape has line symmetry.



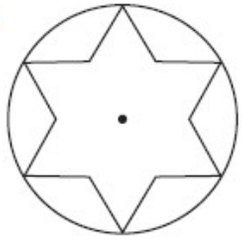
7.6 **14.** What is the order of rotational symmetry of each shape? How do you know?

a)

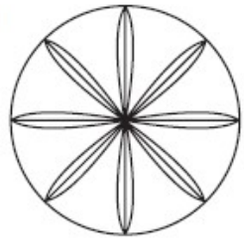
b)



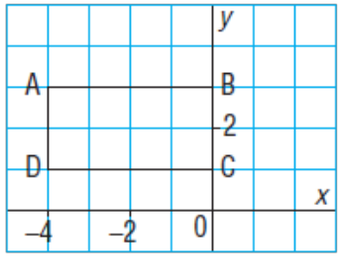
c)

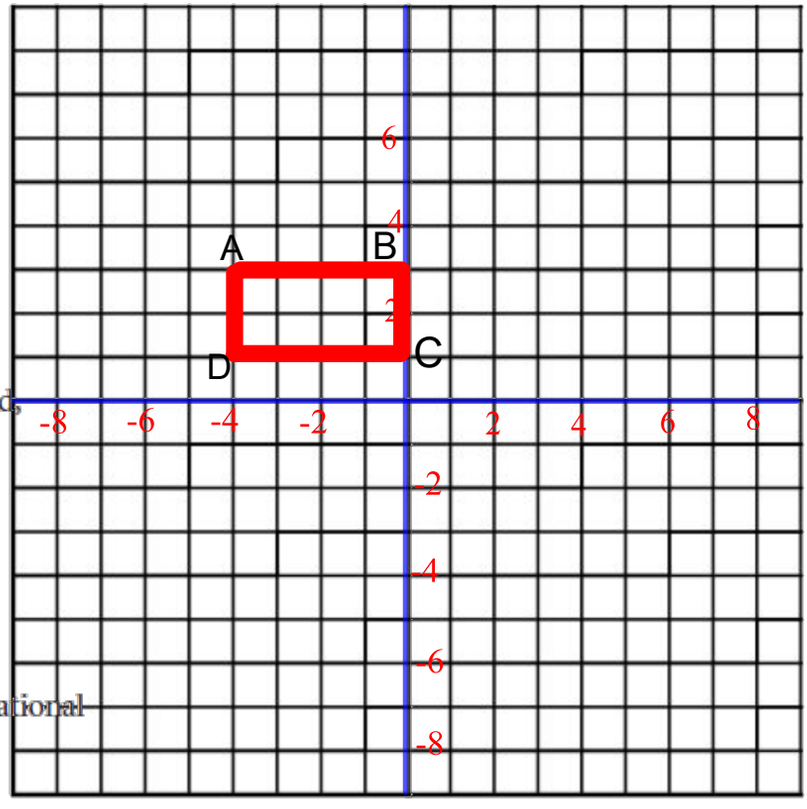


d)



15. Rectangle ABCD is part of a larger shape that is to be completed by a transformation image.





a) Rotate rectangle ABCD as indicated, then draw and label each image.
   i) 90° counterclockwise about the point (−4, 2)
   ii) 180° about vertex B
   iii) 270° counterclockwise about the point (−2, 2)

b) Which diagrams in part a have rotational symmetry? How do you know?