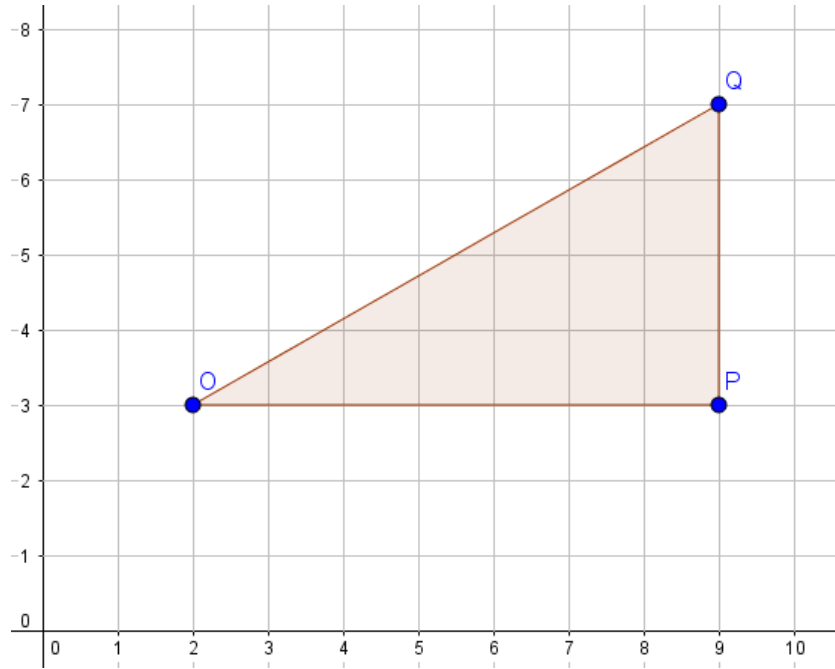


Name \_\_\_\_\_

Date \_\_\_\_\_

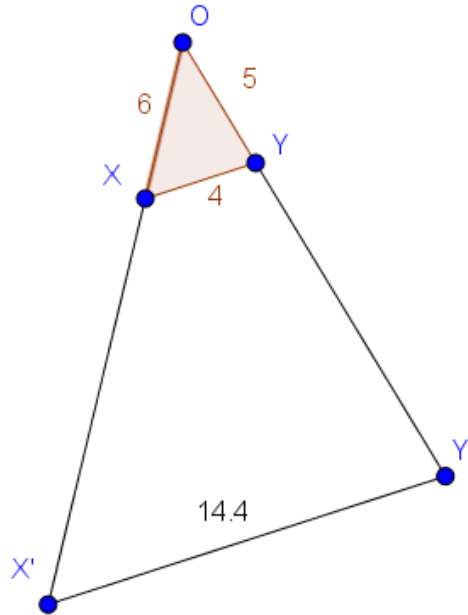
1. Use the diagram below to answer the questions that follow.



- Dilate  $\triangle OPQ$  from center  $O$  and scale factor  $r = \frac{3}{7}$ . Label the image  $\triangle OP'Q'$ .
- Find the coordinates of points  $P'$  and  $Q'$ .

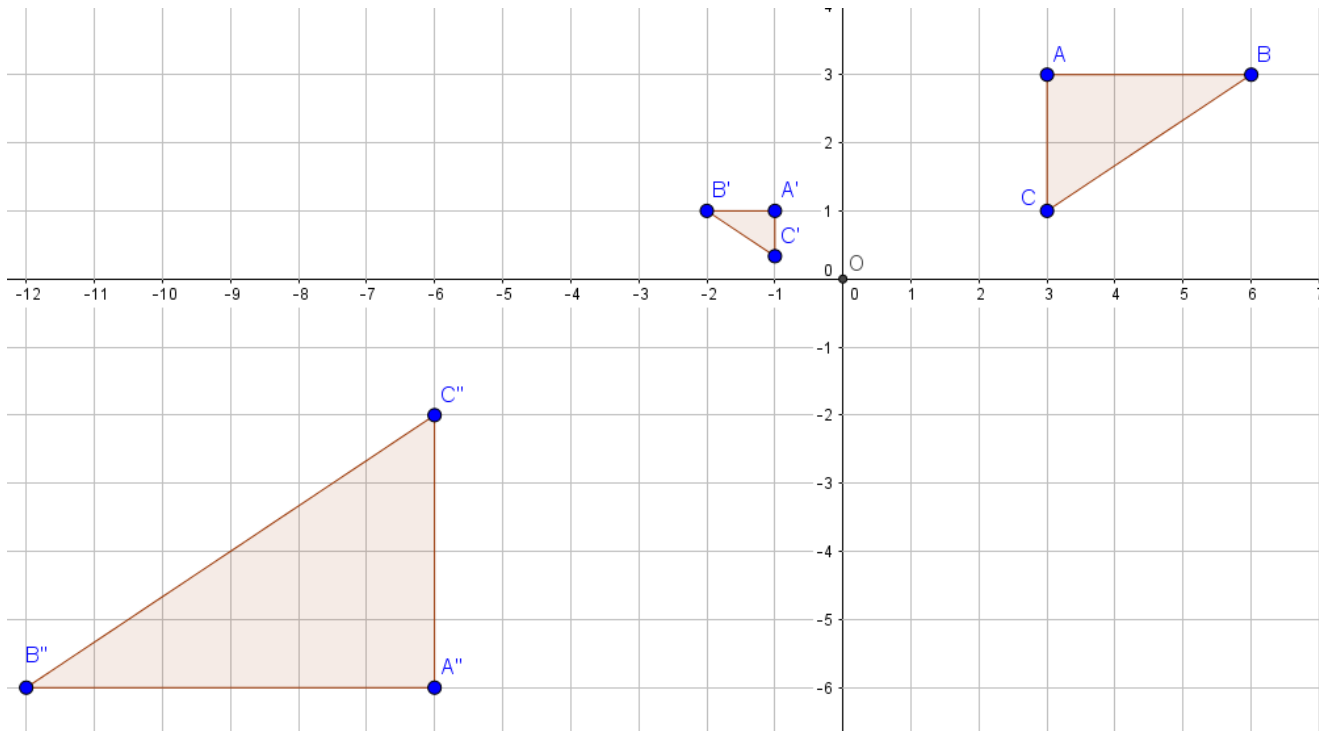
- c. Are  $\angle OQP$  and  $\angle OQ'P'$  equal in measure? Explain.
- d. What is the relationship between the segments  $PQ$  and  $P'Q'$ ? Explain in terms of similar triangles.
- e. If the length of segment  $OQ$  is 8.06 units, what is the length of segment  $OQ'$ ? Explain in terms of similar triangles. (Round to the nearest tenth)

2. Use the diagram below to answer the questions that follow. The length of each segment is as follows: segment  $OX$  is 6 units, segment  $OY$  is 5 units, segment  $XY$  is 4 units, and segment  $X'Y'$  is 14.4 units.



- a. Suppose segment  $XY$  is parallel to segment  $X'Y'$ . Is  $\triangle OXY$  similar to  $\triangle OX'Y'$ ? Explain.
- b. What is the length of segment  $OX'$ ? Show your work.
- c. What is the length of segment  $OY'$ ? Show your work.

3. Given  $\triangle ABC \sim \triangle A'B'C'$  and  $\triangle ABC \sim \triangle A''B''C''$  in the diagram below, answer parts (a)–(c).



a. Describe the sequence that shows the similarity for  $\triangle ABC$  and  $\triangle A'B'C'$ .

b. Describe the sequence that shows the similarity for  $\triangle ABC$  and  $\triangle A''B''C''$ .

c. Is  $\triangle A'B'C'$  similar to  $\triangle A''B''C''$ ? How do you know?