

Name: _____ Date: _____ Hour: _____

Unit K Exam Review

1. A photo measures 5" by 7". If the shorter dimension of a similar photo is 10", what is the longer dimension?

2. An image of a building in a photograph is 6 cm wide and 3 cm tall. If the image is similar to the actual building and the actual building is 144 meters wide, how tall is the actual building?

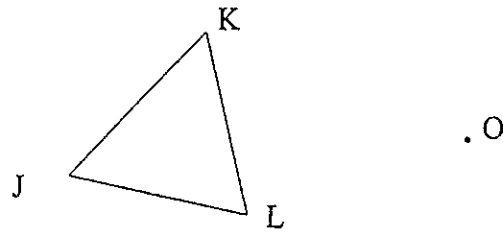
3. A painting is 16 in wide and 31 in high. A reproduction, which is similar to the original, is 11 in wide. How high is the reproduction?

4. If a rider covers 2.25 km in 9 minutes, how far can she travel in 1 hour?

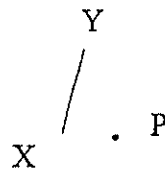
5. Mrs. Liu paid \$11.44 for 8 gallons of gasoline. How much would she have to pay for a whole tankful if her tank holds 35 gallons?

Name: _____ Date: _____ Hour: _____

6. Draw the image of $\triangle JKL$ under a size change with center O and magnitude $\frac{2}{3}$.



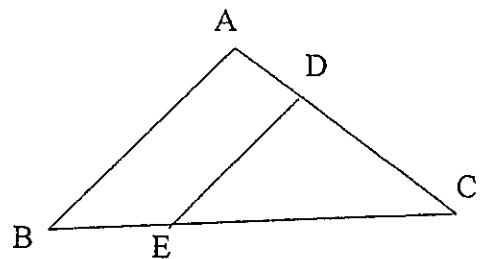
7. Draw the image of XY under a size change with center P and magnitude 1.5.



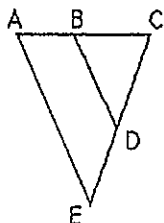
8. Let S be the size change such that $S_k(\triangle DEC) = \triangle ABC$.

a. Is this size change an expansion or a contraction?

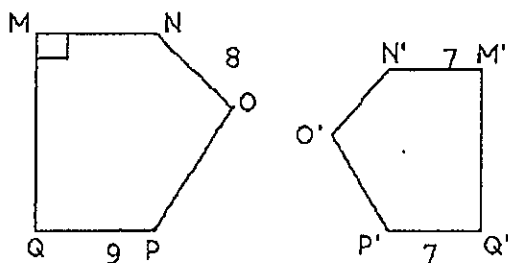
b. What is the value of k?



9. $\triangle BCD \sim \triangle ACE$. If $CD = 6$, $BD = 7$, and $AE = 10$, find CE to the nearest tenth.



10. $MNOPQ \sim M'N'O'P'Q'$, with sides and angle measures as indicated in the figure. Find as many other missing side lengths and angle measures as possible.

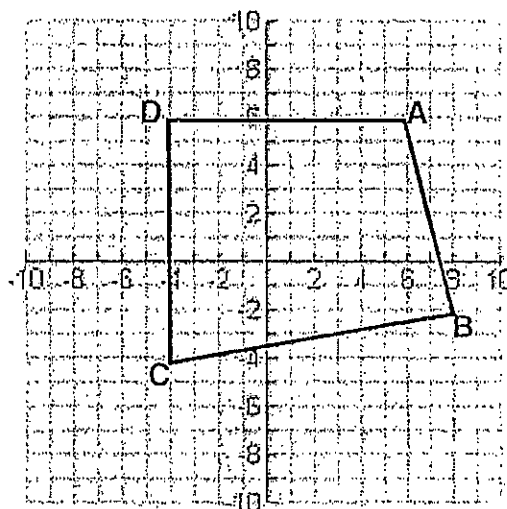


11. a. On the coordinate axes to the right, graph the image of $ABCD$ under $S_{0.5}$ and give the coordinates of the new vertices.

$A' = \underline{\hspace{2cm}}$ $B' = \underline{\hspace{2cm}}$

$C' = \underline{\hspace{2cm}}$ $D' = \underline{\hspace{2cm}}$

- b. Show that the distance between A and D is half of the distance between A' and D' .



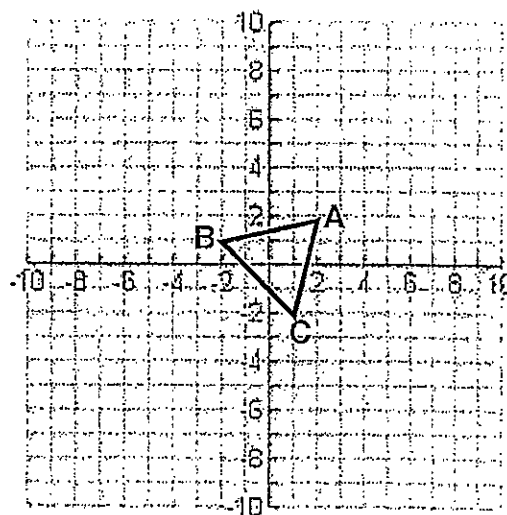
12. a. On the coordinate axes to the right, graph the image of $\triangle ABC$ under $S_{2.5}$ and give the coordinates of the new vertices.

$A' = \underline{\hspace{2cm}}$

$B' = \underline{\hspace{2cm}}$

$C' = \underline{\hspace{2cm}}$

- b. What is $S_{0.25}(C)$? _____



Name: _____ Date: _____ Hour: _____

13. A hexagon has an area 90 in^2 and shortest side length 5 in. A similar hexagon has shortest side of length 4 in. What is the area of the similar hexagon?

14. A octagon has area 150 cm^2 and longest side length 10 cm. A similar octagon has longest side 4 cm. What is the area of the similar octagon?

15. If a 16-inch pizza costs \$9.50, at the same cost per square inch, what should an 18-inch pizza of the same thickness with the same ingredients cost? Round to the nearest cent.

16. If it takes 3 tubes of gold paint to cover a cube with edge length 2 in, how much gold paint will it take to cover a cube with edge length 4 in?

17. A figure with area 16 is transformed into a figure with area 64 under a size change of magnitude _____?

18. If it takes 1200 gallons to fill a cylindrical swimming pool, how much would it take to fill a similar swimming pool with double the radius?

19. When his height was measured at 8' 11.1", Robert Wadlow weighed 439 lbs. How much would a 5' 10" man weigh if he were similar in shape to Wadlow?