NAME Key

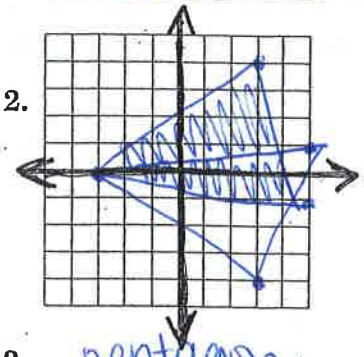
Geometry ~ Unit 1B Study Guide

1. After a dilation, A(-10 , 5) becomes A'(-2 , 1). Is the dilation an enlargement, reduction or congruence transformation? What is the scale factor?

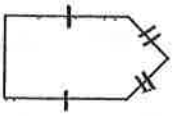
1. reduction $r = \frac{1}{5}$

2. Graph $\triangle PQR$ with vertices $P(3, 4)$, $Q(5, -1)$, and $R(-3, 0)$. Then graph the image of $\triangle PQR$ reflected in the x-axis.

2.



3. Classify the polygon by number of sides, convex or concave, regular or irregular.

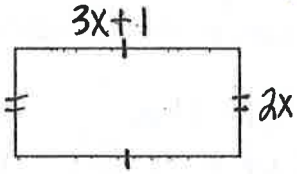


3. pentagon convex, irregular

4. Find the length of each side of the quadrilateral. P = 52

4. 10, 16

$x = 5$



5. Find the image of $\overline{UV}$ with $U(-3, 5)$ and $V(0, 8)$ under the translation $(x, y) \rightarrow (x + 2, y - 5)$.

5. (-1,0) (2,3)

6. Find the image of $\overline{CD}$ with $C(0, 4)$ and $D(3, 4)$ under a rotation of 90° counterclockwise about the origin.

6. (-4,0) (-4,3)

7. Find the coordinates of Q'' if $\triangle OPQ$ with $O(4, 2)$, $P(5, 0)$, and $Q(1, -2)$ is reflected in the x-axis and then in the y-axis.

7. (-1,2)

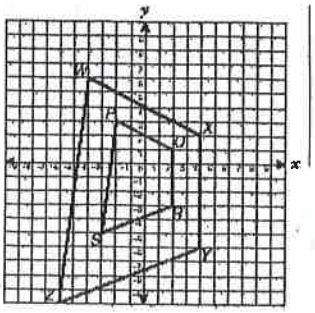
8. A 12 inch by 14 inch picture is being reduced on a printer by a scale factor of ½. Find the dimensions of the new picture.

8. 6 x 7

9. If C(-2 , 0) and D(-1 , 4) become C'(-6 , 0) and D'(-3 , 12), is the dilation an enlargement, reduction or congruence transformation? What is the scale factor?

9. enlargement $r = 3$

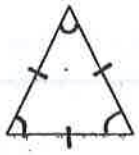
10. Quadrilateral *PQRS* was dilated to form quadrilateral *WXYZ*. Is this an example of an enlargement, reduction or congruence transformation? What is the scale factor?



10. enlargement $r = 2$

Assessments

11. Classify the polygon by number of sides, convex or concave, regular or irregular.



11. triangle convex regular

12. Find the image of Triangle GHI with G(-5, -4), H (1, 1), and I (6, -2), after a 180° rotation.

12. (5,4) (-1,-1) (-6,2)

13. Find the scale factor of the dilation if $OP = 15$ and $O'P' = 20$.

13. r = 4/3

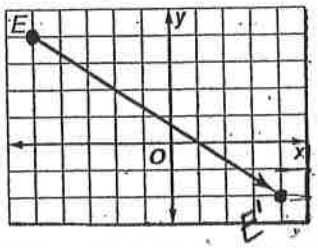
14. Determine the translation if G(-3,0) becomes G'(4,5).

14. (x+7, y+5)

15. C (6, -4) under rotation 90° counterclockwise.

15. (4, 6)

16. Write the rule for the translation of E to E'.



16. (x+9; y-6)

17. Find the new image of Triangle JKL with J (-6, -2), K (2, 10), and L (-2, -2), under dilation with a scale factor of 1/2, then a reflection in the y-axis, then the translation (x, y) → (x − 3, y + 2).

17. (0,1) (-4,7) (-2,1)

18. Find the image of the point at (−11, −7) under a translation of 3 units down.

18. (-11, -10)

19. find the coordinates of the vertices of the image of $\triangle JKL$ with $J(-5, 4)$, $K(6, 8)$, and $L(-2, -3)$, under the translation $(x, y) \rightarrow (x + 6, y - 5)$.

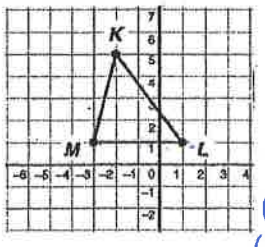
19. (1, -1) (12, 3) (4, -8)

20. find the coordinates of the vertices of the image of $\triangle DEF$ with $D(-2, 1)$, $E(-1, 6)$, and $F(3, 2)$, after a reflection in the x-axis.

20. (-2, -1) (-1, -6) (3, -2)

21. Find the perimeter of the triangle graphed below. Round your answer to 3 decimal places.

21. P = 13.123



(-2,5) K
(1,1) L
(-3,1) M

ML = 4 ✓

KL = 5

KM = √17

$\sqrt{(1-5)^2+(1+2)^2} = \sqrt{16+9} = \sqrt{25} = 5$

$\sqrt{(1-1)^2+(-3-1)^2} = \sqrt{0+16} = \sqrt{16} = 4$

5 + 4 + 4 = 13