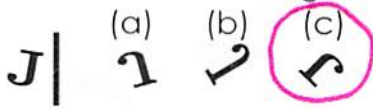


Review Worksheet for the Unit 5 Test

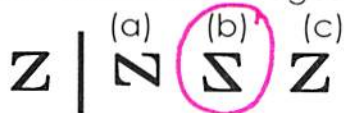
Name _____ Class Period _____

Remember this worksheet is just a guide to help you prepare for the Unit 5 Test. You are responsible for all material covered in Unit 5. Use your Unit 5 Quiz, Notes, and Homework Assignments to also help you prepare for the Unit 5 Test!

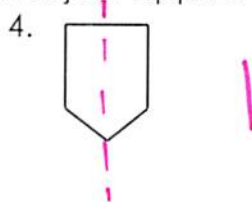
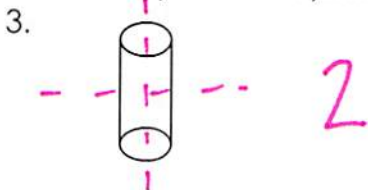
1. Which one of the images can be **rotated** to match the letter J on the left?



2. Which one of the images can be **reflected** to match the letter Z on the left?

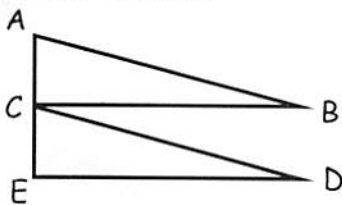


How many lines of symmetry does the given object appear to have?



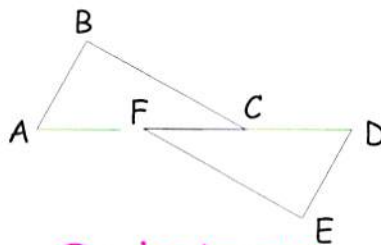
Name the transformation that maps:

5. $\triangle ABC \rightarrow \triangle CDE$



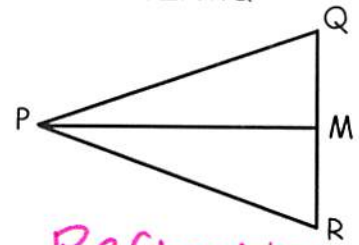
Translation

6. $\triangle ABC \rightarrow \triangle DEF$



Rotation

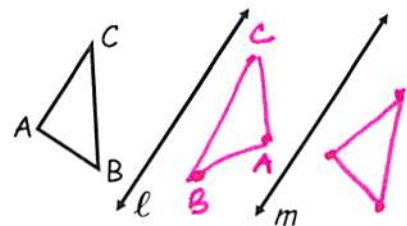
7. $\triangle PMR \rightarrow \triangle PMQ$



Reflection

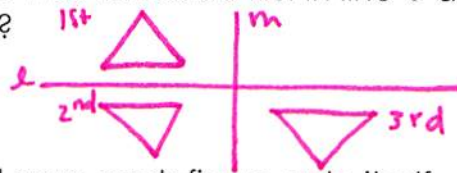
8. In the diagram, $\ell \parallel m$ and $\triangle ABC$ is reflected first in line ℓ and then in line m . This set of reflections is equivalent to doing what kind of singular transformation?

Translation

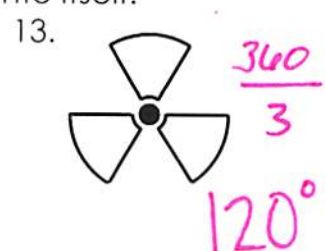
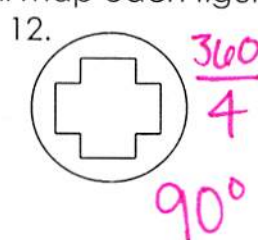
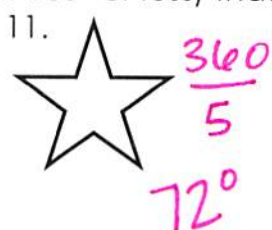


9. If ℓ and m were **intersecting** lines, and $\triangle ABC$ was reflected first in line ℓ and then in line m , what would the resulting transformation be?

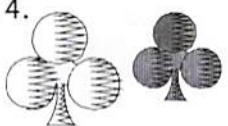


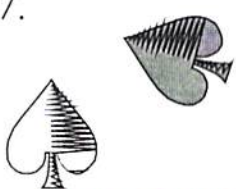

Rotation



Describe any **rotations** (of 180° or less) that will map each figure onto itself.



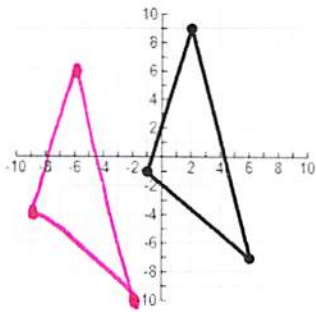
An isometry is a transformation in the plane that preserves length. Identify each **transformation** and each **isometry**. (Preimages are unshaded and images are shaded.)

14.  Dilation Dilation
 15.  Dilation
 16.  Translation
 17.  Rotation
 18.  Reflection

Not an isometry (for 14 and 15)
 Isometry (for 16, 17, and 18)

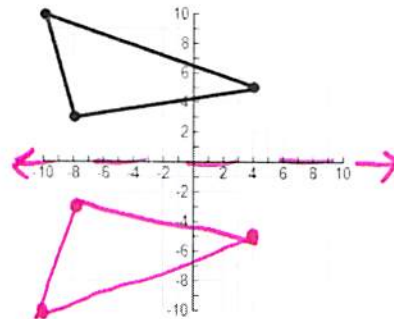
Draw the image of each figure, using the given transformation.

19. Translation $(x, y) \rightarrow (x - 8, y - 3)$



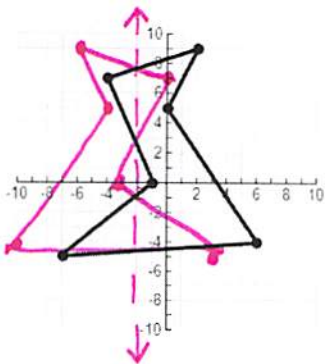
$$\begin{aligned} (-1, -1) &\rightarrow (-9, -4) \\ (2, 9) &\rightarrow (-6, 6) \\ (6, -7) &\rightarrow (-2, -10) \end{aligned}$$

20. Reflection across the **x-axis**.



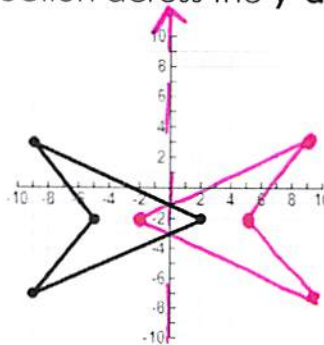
$$\begin{aligned} (-8, 3) &\rightarrow (-8, -3) \\ (4, 5) &\rightarrow (4, -5) \\ (-10, 10) &\rightarrow (-10, -10) \end{aligned}$$

21. Reflection across the line **x = -2**



$$\begin{aligned} (2, -2) &\rightarrow (-2, -2) \\ (-5, -2) &\rightarrow (5, -2) \\ (-9, 3) &\rightarrow (9, 3) \\ (-9, -7) &\rightarrow (9, -7) \end{aligned}$$

22. Reflection across the **y-axis**.



QUESTION 1

QUESTION 2

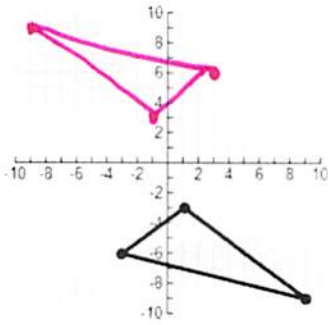
QUESTION 3



QUESTION 4

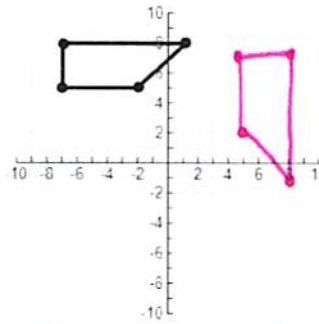


23. Rotation 180° about the origin



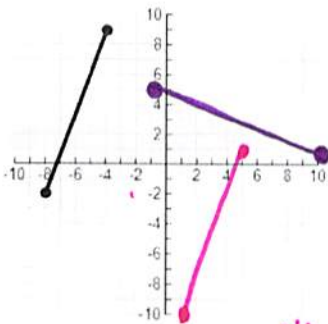
$$\begin{aligned} (-3, -6) &\rightarrow (3, 6) \\ (1, -3) &\rightarrow (-1, 3) \\ (9, -9) &\rightarrow (-9, 9) \end{aligned}$$

24. Rotation 90° clockwise about the origin.



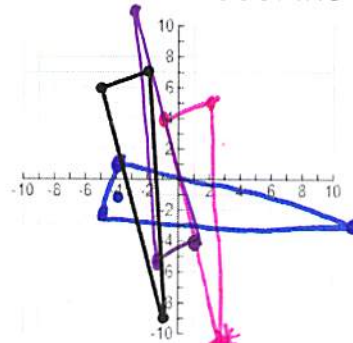
$$\begin{aligned} (-7, 5) &\rightarrow (5, 7) \\ (-2, 5) &\rightarrow (5, 2) \\ (1, 8) &\rightarrow (8, -1) \\ (-7, 8) &\rightarrow (8, -7) \end{aligned}$$

25. Translation $(x, y) \rightarrow (x + 9, y - 8)$
Rotation 90° CCW about the origin



$$\begin{aligned} (-8, -2) &\rightarrow (1, -10) \rightarrow (10, 1) \\ (-4, 9) &\rightarrow (5, 1) \rightarrow (-1, 5) \end{aligned}$$

26. Translation $(x, y) \rightarrow (x + 4, y - 2)$
Rotation 180° about the origin.
Reflection about the line $y = x$.



$$\begin{aligned} (-5, 6) &\rightarrow (-1, 4) \rightarrow (1, -4) \rightarrow (-4, 1) \\ (-2, 7) &\rightarrow (2, 5) \rightarrow (-2, -5) \rightarrow (-5, -2) \\ (-1, 9) &\rightarrow (3, -1) \rightarrow (-3, -11) \rightarrow (11, -3) \end{aligned}$$

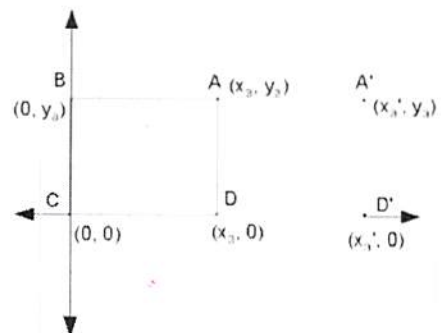
Examine the diagram. Note that **B' is at the same point as B**, and **C' is at the same point as C**, although these are not labeled.

27. Is this an isometry? Is it a dilation?

Neither an isometry or a dilation

28. What transformation has taken place to map ABCD to A'B'C'D'? Be specific.

Horizontal stretch



29. Write the function/rule that maps ABCD to A'B'C'D'.

$$(x, y) \rightarrow (2x, y)$$



$(1, 1) \rightarrow (1, 2)$
 $(1, 2) \rightarrow (2, 2)$
 $(2, 2) \rightarrow (2, 1)$
 $(2, 1) \rightarrow (1, 1)$

$(1, 1) \rightarrow (1, 2)$
 $(1, 2) \rightarrow (2, 2)$
 $(2, 2) \rightarrow (2, 1)$
 $(2, 1) \rightarrow (1, 1)$



$(1, 1) \rightarrow (1, 2)$
 $(1, 2) \rightarrow (2, 2)$
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$(1, 1) \rightarrow (1, 2)$
 $(1, 2) \rightarrow (2, 2)$
 $(2, 2) \rightarrow (2, 1)$
 $(2, 1) \rightarrow (1, 1)$

Specify if the following equations or graphs are **even**, **odd**, or **neither**.

30. $y = 2x^3 - 4$

Neither

31. $y = 5x^6 - 4x^2$

Even

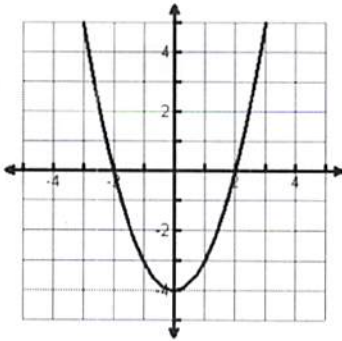
32. $y = 10$

Even

33. $y = \frac{1}{2}x$

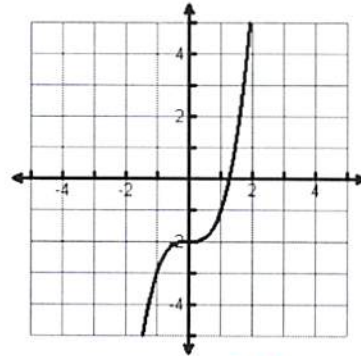
odd

34.



Even

35.



Neither

36. Given $f(x)$ is odd and point $A(-4, 19)$ is a point on the function. Name another point on the **odd function**.

$A' (4, -19)$

37. Given $h(x)$ is odd and point $B(16, -21)$ is a point on the function. Name another point on the **odd function**.

$B' (-16, 21)$

38. Given $f(x)$ is even and point $C(-14, -16)$ is a point on the function. Name another point on the **even function**.

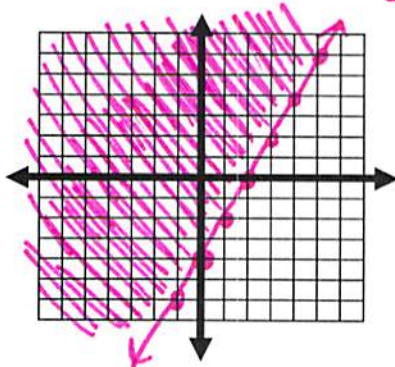
$C' (14, -16)$

39. Given $f(x)$ is even and point $D(34, 40)$ is a point on the function. Name another point on the **even function**.

$D' (-34, 40)$

Cumulative Review:

1. Graph the inequality: $2x - y \leq 4$



$$\begin{aligned} -y &\leq -2x + 4 \\ y &\geq 2x - 4 \end{aligned}$$

2. Solve the system of linear equations by using the method of your choice.

$$-3x + 4y = -18$$

$$3x + 2y = -42$$

$$\begin{aligned} 10y &= -30 \\ y &= -3 \end{aligned}$$

$$x + 2(-3) = -4$$

$$x + -6 = -4$$

$$x = 2$$

$$\boxed{(2, -3)}$$