

Study guide for Transformations (Rotations, Reflections, Translations, and Dilations)

Good Luck to _____ Date _____ Period _____

Circle the correct answer for 1-9.

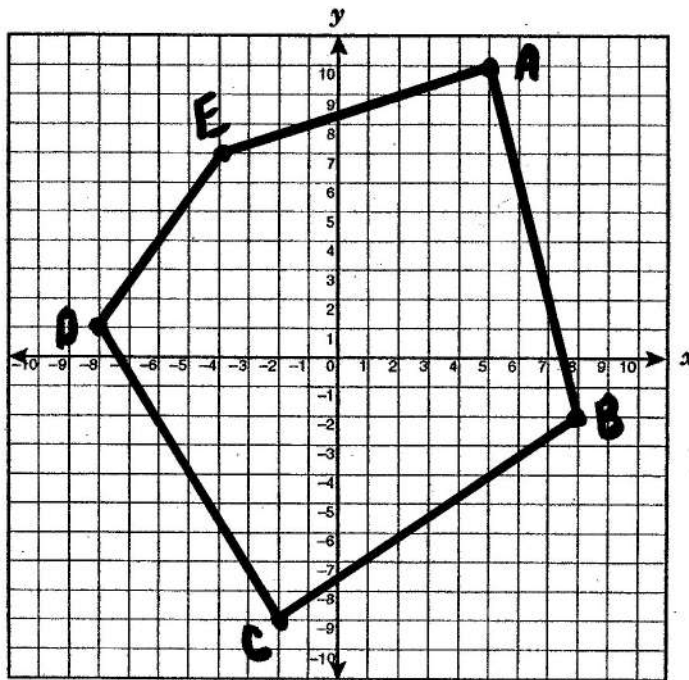
1. A point P has coordinates $(-8, -2)$. What are its new coordinates after reflecting point P across the x -axis?

- [A] $(-8, 2)$ [B] $(8, -2)$ [C] $(8, 2)$ [D] $(-2, -8)$

2. What is the reflection image of $(5, -3)$ across line $y = x$?

- [A] $(-5, 3)$ [B] $(5, 3)$ [C] $(-3, 5)$ [D] $(-3, -5)$

3. Pentagon $ABCDE$ is dilated with the origin as the center of dilation by a scale factor of 3.5 . What will be the dilated coordinate of point C ?



- [A] $(-7, -31.5)$ [B] $(-5, -22.5)$ [C] $(-9, -40.5)$ [D] $(-1, -4.5)$

4. A point Q with coordinates $(-8, -6)$ is reflected across the y -axis. What are its new coordinates?

- [A] $(-8, 6)$ [B] $(8, -6)$ [C] $(-8, 6)$ [D] $(-6, -8)$

5. Write the translation of point $P(2, -9)$ to point $P'(0, -12)$.

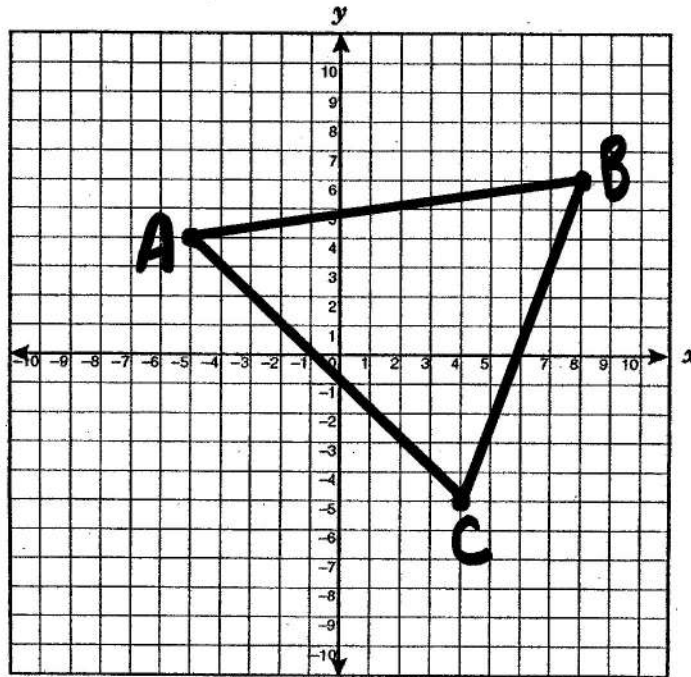
[A] $(x, y) \rightarrow (x - 3, y - 2)$

[B] $(x, y) \rightarrow (x + 3, y + 2)$

[C] $(x, y) \rightarrow (x + 2, y + 3)$

[D] $(x, y) \rightarrow (x - 2, y - 3)$

6. Which of the following is a dilation of triangle ABC with center of dilation $(0, 0)$?



[A] $A'(-2.5, 2)$ $B'(8, 6)$ $C'(2, -2.5)$

[B] $A'(-\frac{5}{3}, \frac{4}{3})$ $B'(\frac{8}{3}, 2)$ $C'(\frac{4}{3}, -\frac{5}{3})$

[C] $A'(-1, 1)$ $B'(2, 1.5)$ $C'(1, -1.25)$

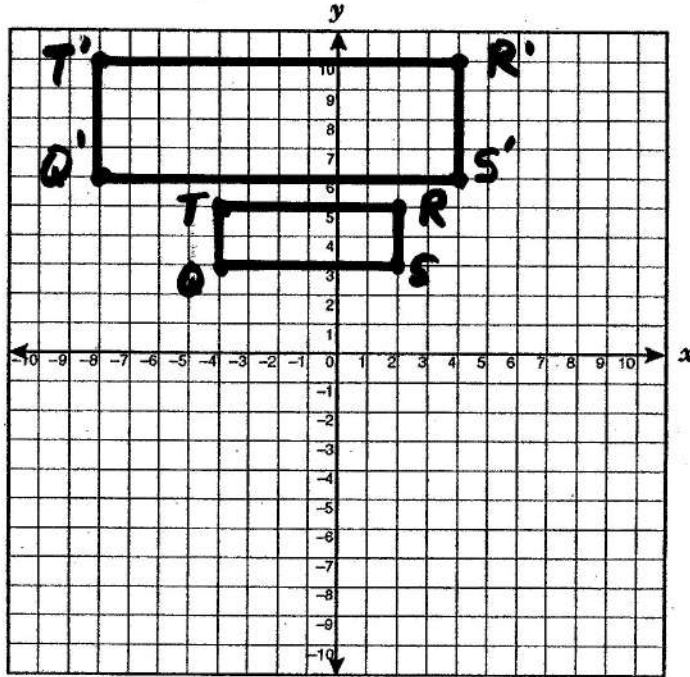
[D] $A'(-2, 7)$ $B'(10.5, -12.5)$ $C'(-2, -1)$

7. The coordinates of the preimage triangle DEF are $D(-4, 5)$, $E(9, -2)$, $F(0, -6)$. The coordinates of the image triangle $D'E'F'$ are $D'(-8, 10)$, $E'(18, -4)$, $F'(0, -12)$. What is the scale factor from the preimage to the image if the center of dilation is $(0, 0)$?

[A] 2 [B] 3 [C] $\frac{1}{3}$ [D] $\frac{1}{2}$

8. Rectangle T'R'S'Q' is the dilation of rectangle TRSQ. What is the scale factor of the dilation?

- [A] 2 [B] 4 [C] $\frac{1}{4}$ [D] $\frac{1}{2}$



9. Your new T-shirt shrank slightly when it was washed and dried. What scale factor below could best describe this dilation?

- [A] 1.3 [B] 0.9 [C] 0.4 [D] 2.0



10. Graph the triangle whose vertices have the coordinates given below. Then draw its dilation using a scale factor of 2 and the origin as the center of dilation. Be sure to label triangle RST and triangle R'S'T'.

R (1, 4) N(3, 0) P (-1, -3)

