

Practice 1B

1. Describe in words the translation represented by the vector $\langle 2, -1 \rangle$.

- *A. 2 units to the right and 1 units down
- B. 1 units to the right and 2 units down
- C. 2 units to the left and 1 units down
- D. 2 units to the left and 1 units up

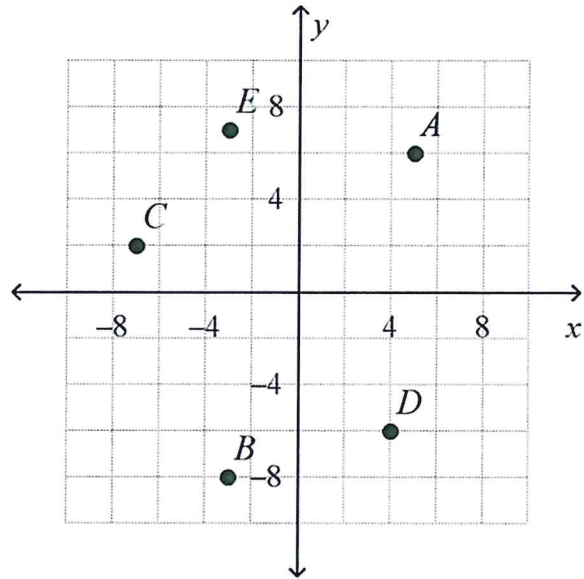
2. Find the vector that describes the translation B

→ A.

- *A. $\langle 8, 14 \rangle$
- B. $\langle 7, 2 \rangle$
- C. $\langle -4, 10 \rangle$
- D. $\langle 0, 15 \rangle$

3. Find the image of C under the translation described by the vector $\langle 4, -10 \rangle$.

- *A. B
- B. D
- C. A
- D. E



4. LaKeesha was sitting in seat J1 at a soccer game when she discovered her ticket was for seat D4. Write a rule to describe the translation needed to put her in the proper seat.

- A. $(x-6, y-3)$
- *B. $(x-6, y+3)$
- C. $(x+6, y-3)$
- D. $(x+6, y+3)$

5. The vertices of a rectangle are $R(-5, -5)$, $S(-1, -5)$, $T(-1, 1)$, and $U(-5, 1)$. After translation, R' is the point $(0, -13)$. Find the translation vector and coordinates of U' .

- A. $\langle -5, 8 \rangle$; $U'(-10, 9)$
- *B. $\langle 5, -8 \rangle$; $U'(0, -7)$
- C. $\langle 5, 8 \rangle$; $U'(0, 9)$
- D. $\langle -5, 8 \rangle$; $U'(-10, -7)$

Practice 1C

1. The vertices of a triangle are $P(-3, 8)$, $Q(-6, -4)$, and $R(1, 1)$. Name the vertices of the image reflected in the x-axis.

- A. $P'(3, 8)$, $Q'(6, -4)$, $R'(-1, 1)$
- B. $P'(-3, 8)$, $Q'(-6, -4)$, $R'(1, 1)$
- *C. $P'(-3, -8)$, $Q'(-6, 4)$, $R'(1, -1)$
- D. $P'(3, -8)$, $Q'(6, 4)$, $R'(-1, -1)$

2. The vertices of a triangle are $P(-2, -4)$, $Q(2, -5)$, and $R(-1, -8)$. Name the vertices of the image reflected in the y-axis.

- A. $P'(-2, -4)$, $Q'(2, -5)$, $R'(-1, -8)$
- B. $P'(-2, 4)$, $Q'(2, 5)$, $R'(-1, 8)$
- *C. $P'(2, -4)$, $Q'(-2, -5)$, $R'(1, -8)$
- D. $P'(2, 4)$, $Q'(-2, 5)$, $R'(1, 8)$

3. The vertices of a triangle are $P(-2, -4)$, $Q(2, -5)$, and $R(-1, -8)$. Name the vertices of the image reflected in the x-axis and then the y-axis.

- A. $P'(-2, -4)$, $Q'(2, -5)$, $R'(-1, -8)$
- B. $P'(-2, 4)$, $Q'(2, 5)$, $R'(-1, 8)$
- C. $P'(2, -4)$, $Q'(-2, -5)$, $R'(1, -8)$
- *D. $P'(2, 4)$, $Q'(-2, 5)$, $R'(1, 8)$

4. Write a rule to describe the transformation that is a reflection in the x-axis.

- A. $(x, y) \rightarrow (y, x)$
- B. $(x, y) \rightarrow (-x, y)$
- C. $(x, y) \rightarrow (-x, -y)$
- *D. $(x, y) \rightarrow (x, -y)$

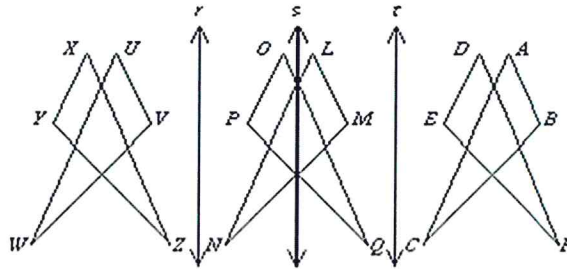
5. Write a rule to describe the transformation that is a reflection in the y-axis.

- A. $(x, y) \rightarrow (x, -y)$
- *B. $(x, y) \rightarrow (-x, y)$
- C. $(x, y) \rightarrow (-x, -y)$
- D. $(x, y) \rightarrow (y, x)$

Practice 1D

Name the translation image of $\triangle ABC$ after a reflection over line t and then a reflection over line r .

- *A. $\triangle UVW$
- B. $\triangle LMN$
- C. $\triangle XYZ$
- D. $\triangle DEF$



2. The vertices of a triangle are $P(-7, -4)$, $Q(-7, -8)$, and $R(3, -3)$. Name the vertices of the image reflected in the line $y = x$.

- A. $P'(4, 7)$, $Q'(8, 7)$, $R'(3, -3)$
- B. $P'(4, -7)$, $Q'(8, -7)$, $R'(3, 3)$
- *C. $P'(-4, -7)$, $Q'(-8, -7)$, $R'(-3, 3)$
- D. $P'(-4, 7)$, $Q'(-8, 7)$, $R'(-3, -3)$

3. Find the image of $O(1, 3)$ after it is reflected about the line $y=2$.

- A. $(1, 5)$
- *B. $(1, 1)$
- C. $(3, 3)$
- D. $(3, 1)$

4. If $A(4, 7) \rightarrow A'(4, 5)$ after a reflection, what is the line of reflection?

- A. $x=6$
- *B. $y=6$
- C. $x=0$
- D. $y=0$

5. If $B(4, 7) \rightarrow B'(-4, 7)$ after a reflection, what is the line of reflection?

- A. $x=7$
- B. $y=7$
- *C. $x=0$
- D. $y=0$

6. $P(5,0) \rightarrow P'(x, y)$ is a composite transformation, first using the glide vector $\langle 3, 5 \rangle$ and then the reflection line $y = -x$. Find the coordinates of P' .

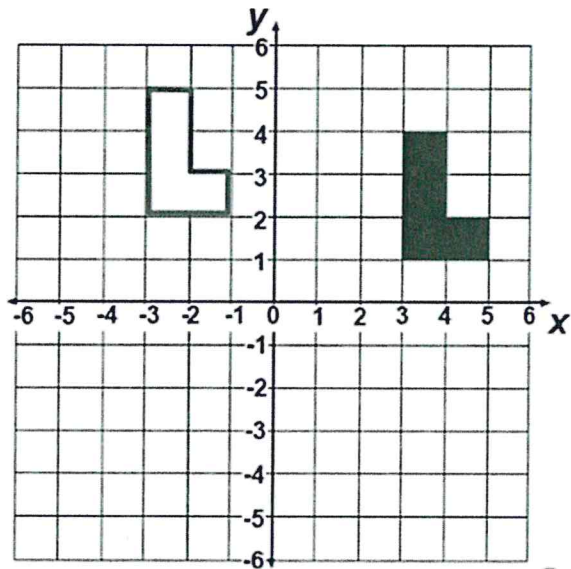
- A. $(3, 0)$
- B. $(5, 8)$
- *C. $(-5, -8)$
- D. $(3, 10)$

Practice 1E

1. What is the image of $A(4, -3)$ after it has been rotated 90 degrees clockwise around the origin?
*A. $(-3, -4)$
B. $(-3, 4)$
C. $(-4, -3)$
D. $(4, 3)$
2. Point $A'(3, 2)$ has a pre-image of $A(-3, -2)$. What is the angle of rotation?
A. 0°
B. 90°
*C. 180°
D. 270°
3. C' is the image of $C(4, 5)$ rotated 270° counter-clockwise about the origin. What are the coordinates of C' ?
A. $(-4, -5)$
B. $(-5, 4)$
C. $(4, -5)$
*D. $(5, -4)$
4. If $D(-3, 4)$ is rotated 180° about the origin, what are the coordinates of its image, D'' ?
*A. $(3, -4)$
B. $(-3, -4)$
C. $(-4, -3)$
D. $(4, -3)$
5. $A(-2, -5)$ is mapped to $A'(-5, 2)$ by what rotation angle?
*A. -90°
B. 90°
C. 180°
D. -270°

4. Describe the transformation from the solid L-shape to the outlined L-shape.

- *A. 6 units left and 1 unit up
- B. 6 units right and 1 unit down
- C. 1 unit left and 6 units up
- D. 1 unit right and 6 units down



5. Which letter is also a reflection?

- A. F
- *B. W
- C. Z
- D. S