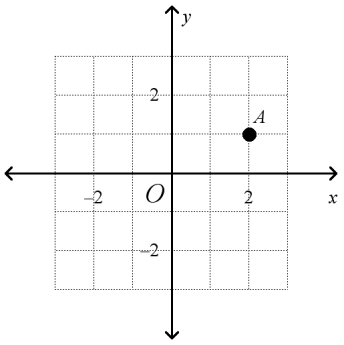
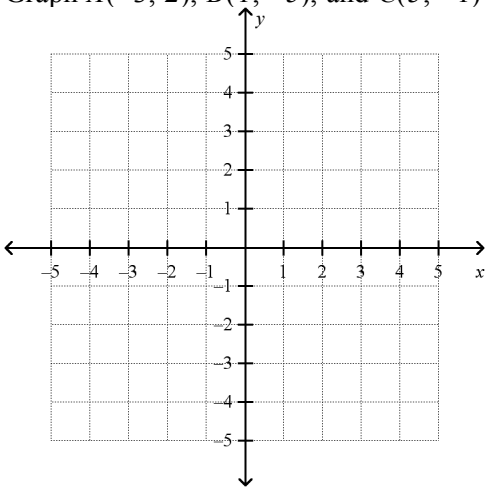
Name: _____ **Class:** _____ **Date:** _____ **ID: A**

Review: Translations and Reflections

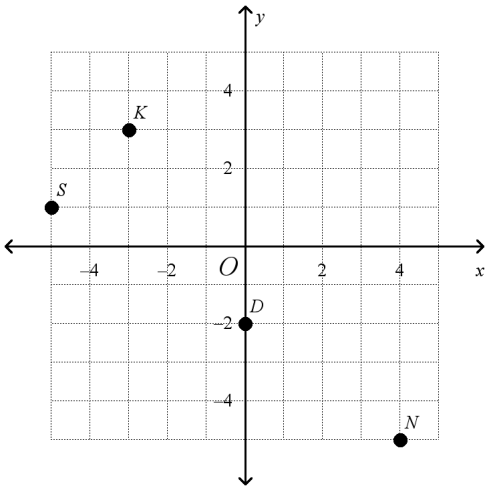
1. Name the coordinates of point A in the graph.



2. Graph $A(-3, 2)$, $B(1, -5)$, and $C(5, -1)$ on the same coordinate plane.



3. Name the point with the coordinates $(-3, 3)$.

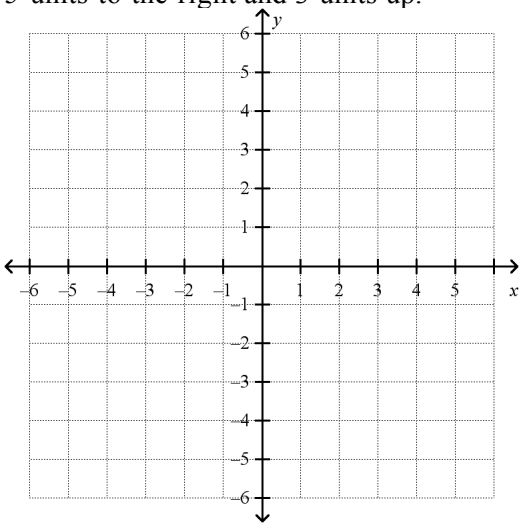


4. In which quadrant is the point (x, y) located if x is positive and y is positive?

5. What are the coordinates of the point 4 to the left and 5 above the point $(1, 0)$?

6. Translate $P(1, -2)$ right 2 units and up 1 unit. Give the coordinate of the image point.

7. Rectangle $ABCD$ has vertices $A(-4, -3)$, $B(-4, -2)$, $C(-1, -2)$, and $D(-1, -3)$. Graph $ABCD$ and its translation 5 units to the right and 3 units up.



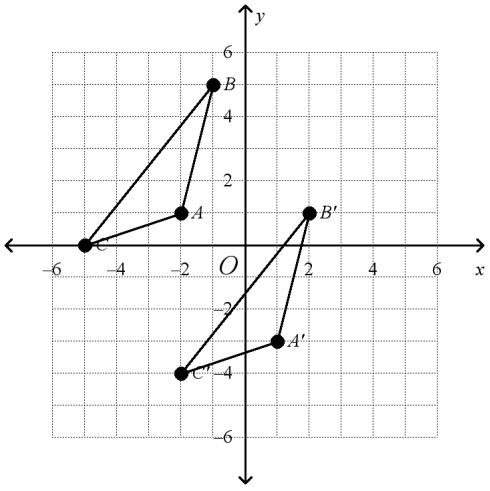
8. Use arrow notation to write a rule that describes the translation of a point from $(-4, -2)$ to $(-1, -1)$.

9. At the half-time show, a marching band marched in formation. The lead drummer started at a point with coordinates $(3, 4)$ and moved 3 steps down and 4 steps left.
   a. Write a rule to describe the translation.
   b. What were the coordinates of the drummer's final position?

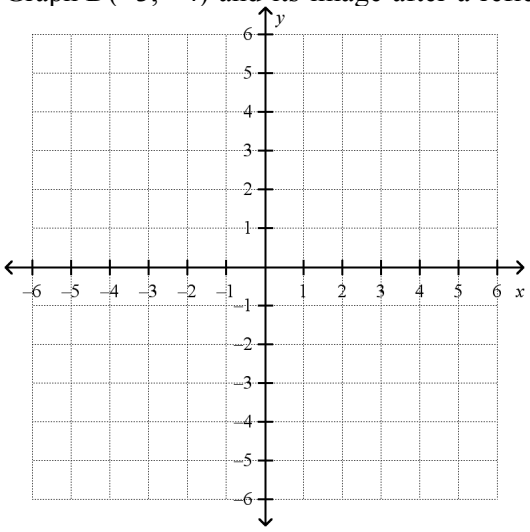
10. ΔPQR has vertices $P(1, -2)$, $Q(7, -3)$, and $R(-3, -8)$. The triangle is translated left 6 units and down 3 units. Without graphing, find the coordinates of P', Q', and R'.

11. Which translation below is NOT described by the rule $(x, y) \rightarrow (x + 2, y - 3)$?
    a. $(3, -2) \rightarrow (5, -5)$
    b. $(-4, 1) \rightarrow (-2, -2)$
    c. $(0, 4) \rightarrow (2, 1)$
    d. $(1, -5) \rightarrow (3, -2)$

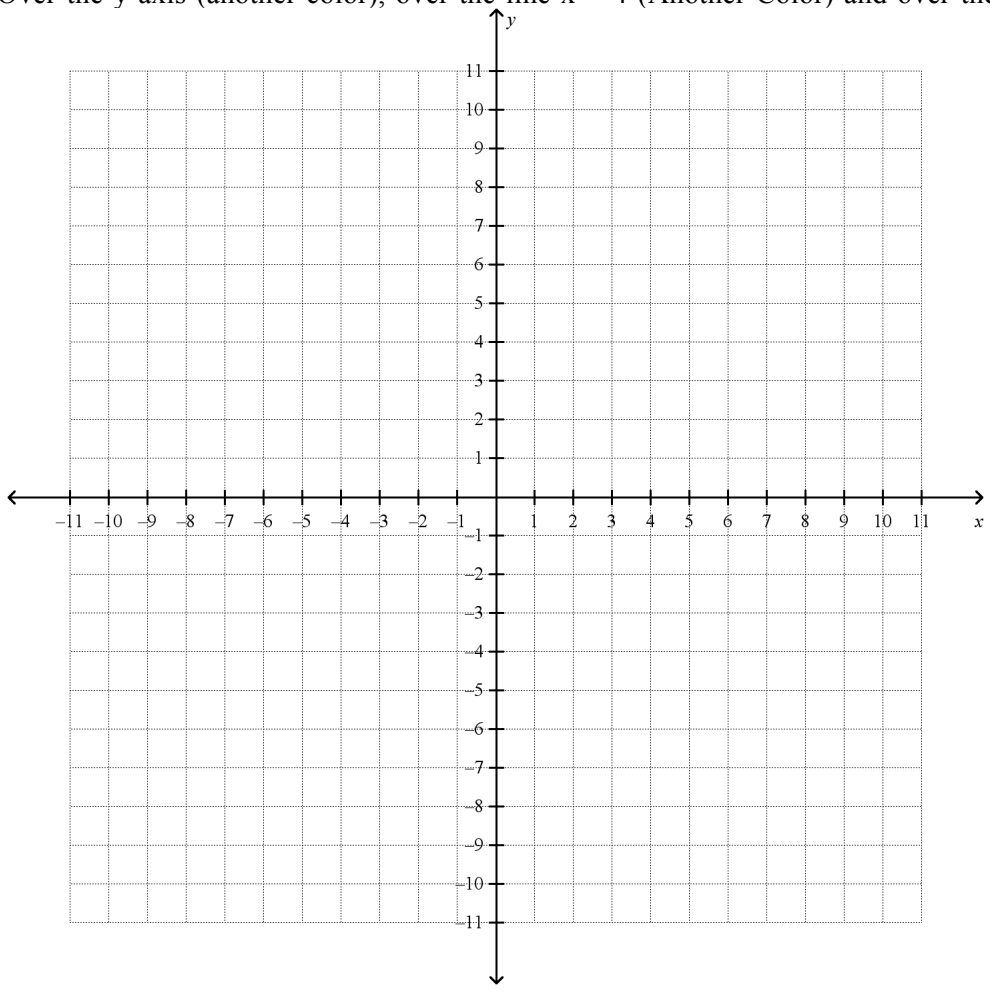
12. Use arrow notation to write a rule that describes the translation shown on the graph.



13. Graph $D(-3, -4)$ and its image after a reflection over the y-axis.



14. ΔABC has vertices $A(0, 2)$, $B(4, 3)$, and $C(2, 6)$. Graph ΔABC and its image after a reflection over the x-axis (One Color), Over the y-axis (another color), over the line x = 4 (Another Color) and over the line y =-2 (a fourth color).

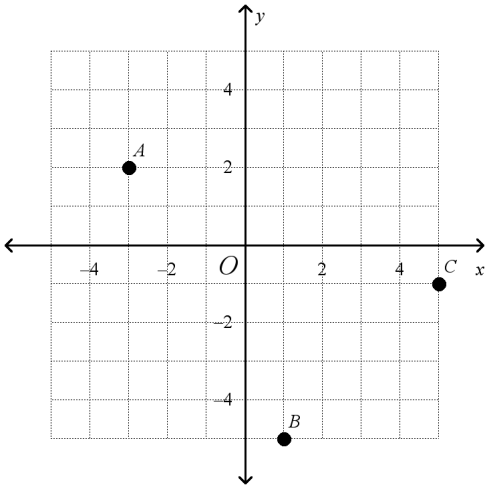


Review: Translations and Reflections
Answer Section

1. ANS:
(2, 1)

PTS: 1 DIF: L2 REF: 3-4 Graphing in the Coordinate Plane
OBJ: 3-4.1 Identifying and Graphing Points in a Coordinate Plane
NAT: NAEP A2c STA: 8MI A.PA.08.03
KEY: coordinate plane | x-axis | y-axis | quadrants | origin | ordered pair | x-coordinate | y-coordinate
DOK: DOK 1

2. ANS:



PTS: 1 DIF: L2 REF: 3-4 Graphing in the Coordinate Plane
OBJ: 3-4.1 Identifying and Graphing Points in a Coordinate Plane
NAT: NAEP A2c STA: 8MI A.PA.08.03 TOP: 3-4 Example 1
KEY: coordinate plane | x-axis | y-axis | quadrants | origin | ordered pair | x-coordinate | y-coordinate
DOK: DOK 1

3. ANS:
K

PTS: 1 DIF: L2 REF: 3-4 Graphing in the Coordinate Plane
OBJ: 3-4.1 Identifying and Graphing Points in a Coordinate Plane
NAT: NAEP A2c STA: 8MI A.PA.08.03 TOP: 3-4 Example 2
KEY: coordinate plane | x-axis | y-axis | quadrants | origin | ordered pair | x-coordinate | y-coordinate
DOK: DOK 1

4. ANS:
I

PTS: 1 DIF: L3 REF: 3-4 Graphing in the Coordinate Plane
OBJ: 3-4.1 Identifying and Graphing Points in a Coordinate Plane
NAT: NAEP A2c STA: 8MI A.PA.08.03
KEY: coordinate plane | ordered pair | origin | quadrants | x-axis | x-coordinate | y-axis | y-coordinate
DOK: DOK 2

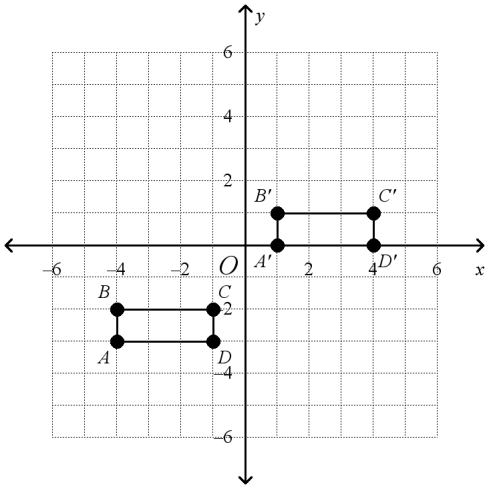
5. ANS:
(–3, 5)

PTS: 1 DIF: L3 REF: 3-4 Graphing in the Coordinate Plane
OBJ: 3-4.1 Identifying and Graphing Points in a Coordinate Plane
NAT: NAEP A2c STA: 8MI A.PA.08.03
KEY: coordinate plane | ordered pair | origin | quadrants | x-axis | x-coordinate | y-axis | y-coordinate
DOK: DOK 1

6. ANS:
(3, –1)

PTS: 1 DIF: L2 REF: 3-6 Translations
OBJ: 3-6.1 Graphing Translations KEY: transformation | translation | image | translating a point
DOK: DOK 1

7. ANS:



PTS: 1 DIF: L2 REF: 3-6 Translations
OBJ: 3-6.1 Graphing Translations TOP: 3-6 Example 1
KEY: transformation | translation | image | translating a figure
DOK: DOK 1

8. ANS:
$(x, y) \rightarrow (x + 3, y + 1)$

PTS: 1 DIF: L2 REF: 3-6 Translations
OBJ: 3-6.2 Describing Translations TOP: 3-6 Example 2
KEY: transformation | translation | image DOK: DOK 1

9. ANS:
$(x, y) \rightarrow (x - 4, y - 3)$; (–1, 1)

PTS: 1 DIF: L3 REF: 3-6 Translations
OBJ: 3-6.2 Describing Translations TOP: 3-6 Example 2
KEY: transformation | translation | image | multi-part question | word problem
DOK: DOK 1

10. ANS:
$P'(-5, -5)$, $Q'(1, -6)$, $R'(-9, -11)$

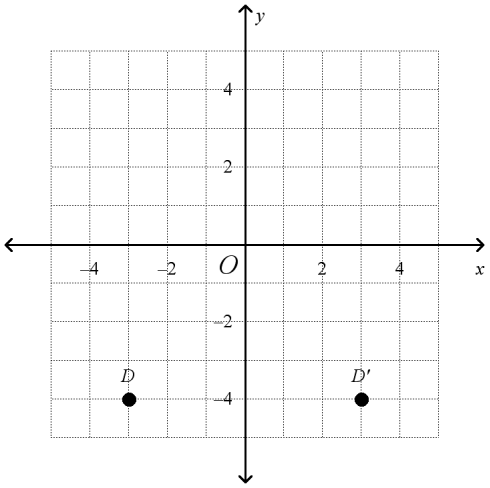
PTS: 1 DIF: L3 REF: 3-6 Translations
OBJ: 3-6.2 Describing Translations TOP: 3-6 Example 2
KEY: transformation | translating a figure | translation DOK: DOK 1

11. ANS: D PTS: 1 DIF: L3 REF: 3-6 Translations
OBJ: 3-6.2 Describing Translations TOP: 3-6 Example 2
KEY: translation DOK: DOK 1

12. ANS:
$(x, y) \rightarrow (x + 3, y - 4)$

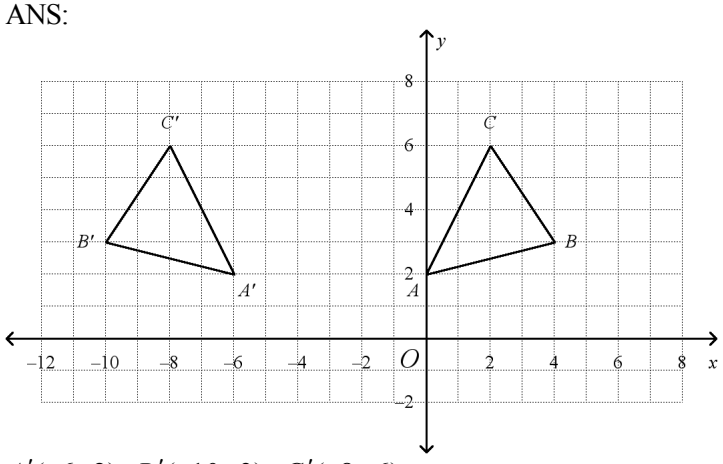
PTS: 1 DIF: L2 REF: 3-6 Translations
OBJ: 3-6.2 Describing Translations TOP: 3-6 Example 2
KEY: transformation | translation DOK: DOK 1

13. ANS:



PTS: 1 DIF: L2 REF: 3-7 Reflections and Symmetry
OBJ: 3-7.1 Graphing Reflections STA: 8MI G.TR.08.10
TOP: 3-7 Example 1 KEY: reflection | line of reflection
DOK: DOK 1

14. ANS:



$A'(-6, 2)$, $B'(-10, 3)$, $C'(-8, 6)$

PTS: 1 DIF: L2 REF: 3-7 Reflections and Symmetry
OBJ: 3-7.1 Graphing Reflections STA: 8MI G.TR.08.10
TOP: 3-7 Example 2 KEY: line of reflection | reflection | multi-part question
DOK: DOK 2