NAME:_____

1. A figure is translated $\langle 3, -3 \rangle$. What translation would move the translation image back to its original position?

2. At the half-time show, a marching band marched in formation. The lead drummer started at a point with coordinates $(-4, 2)$ and moved 3 steps down, and 4 steps right. What are the coordinates of the drummer's final position?

3. How is the area of a square affected under the translation $< 4, -5 >$?

4. Suppose a constellation of stars is plotted on a coordinate plane. The coordinates of the first star are $(4, 2)$. The second star is translated up 4 units. What are the new coordinates?
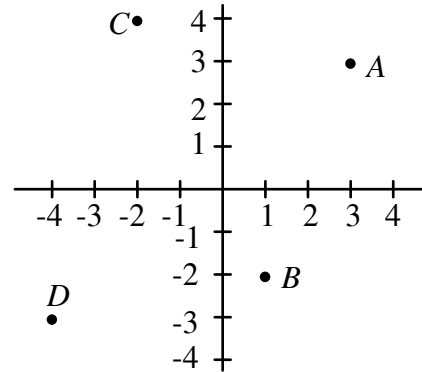
   [A] $(4, 6)$ [B] $(0, 2)$

   [C] $(4, -2)$ [D] $(8, 2)$

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 $(3, 0)$. Find the translation and coordinates of U'.

   [A] $\langle 8, -5 \rangle ; (3, -4)$ [B] $\langle 5, -8 \rangle ; (0, -7)$

   [C] $\langle -5, 8 \rangle ; (-10, 9)$
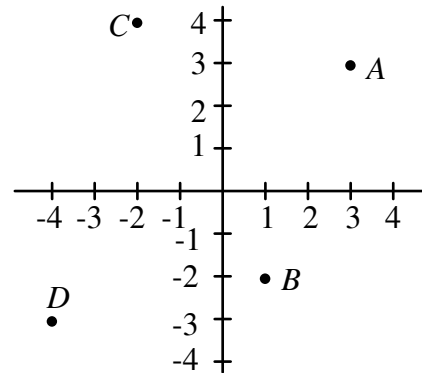
   [D] $\langle 8, 5 \rangle ; (3, 6)$

6. A computer artist must move a square in one corner of a digital image to a place 20 pixels to the right and 35 pixels down. The coordinates of the square pixels are $A(25, 50)$, $B(75, 50)$, $C(75, 100)$, $D(25, 100)$. Find the coordinates of the translated image.

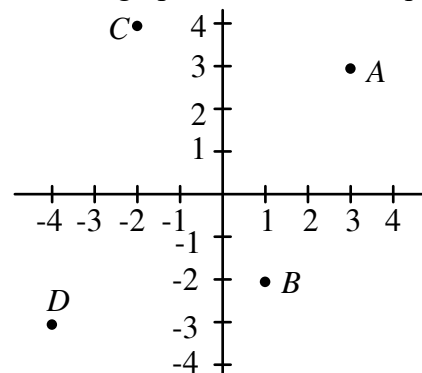7. Use the graph to answer each question.

   Point B above is translated up 4 units. What are its new coordinates?

8. Use the graph to answer each question.

   Point D above is translated down 2 units and to the right 5 units. What are its new coordinates?
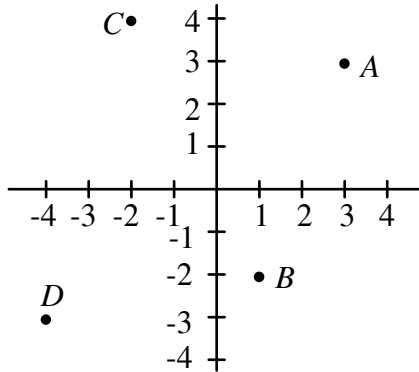
9. Use the graph to answer each question.

   Translate Point A above left 3 units and down 2 units. Then translate the image, Point A', to the left 4 units and down 2 units. What are the coordinates of the image of Point A'?

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10. Use the graph to answer each question.

Point *C* above on the coordinate plane is actually the image of another point that had been translated 2 units to the right and 6 units up. What are the coordinates of this point?

Use the table to answer each question.

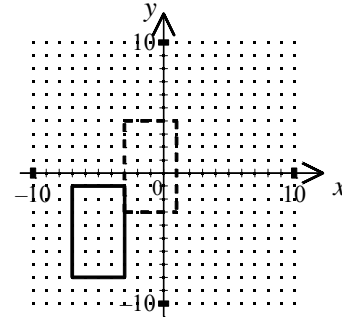| Place	Longitude
Durban, South Africa	30° east
Greenwich, England	0°
Cleveland, Ohio	80° west

Source: National Geographic, <u>Our World</u>

11. Longitude lines (also called meridians) measure how far east or west you are of the prime meridian in Greenwich, England. Longitudes range from 180° east through 180° west. The chart above gives the longitude for a few cities. If you moved Cleveland's position 25° to the east, at what longitude would it be?
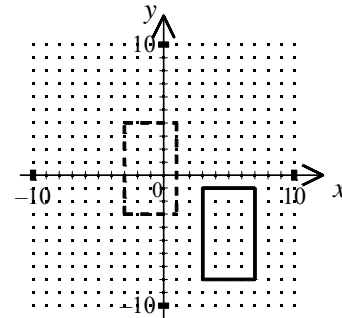
12. Longitude lines (also called meridians) measure how far east or west you are of the prime meridian in Greenwich, England. Longitudes range from 180° east through 180° west. The chart above gives the longitude for a few cities. If you moved Durban's position 40° to the west, at what meridian would it be?

13. Points (–7, –8), (–7, –1), (–3, –1), and (–3, –8) form a quadrilateral. Which graph displays the quadrilateral and its dotted translation 4 units to the right and 5 units up?
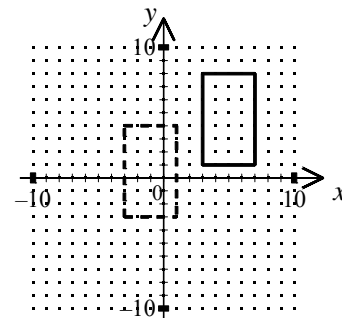
[A]

[B]

[C]

[D] none of these

[1] $\langle -3,\ 3 \rangle$

[2] $(0, -1)$

[3] It is not changed.

[4] A

[5] D

[6] $A'(45, 15),\ B'(95, 15),\ C'(95, 65),\ D'(45, 65)$

[7] $(1, 2)$

[8] $(1, -5)$

[9] $(-4, -1)$

[10] $(-4, -2)$

[11] 55° west

[12] 10° west

[13] A