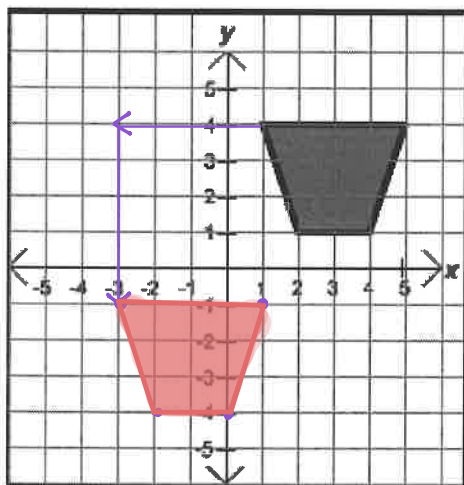


Translations Practice

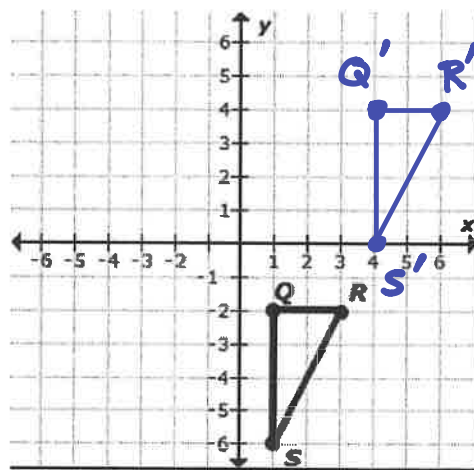
1. Translate the figure 4 units left and 5 units down.

← 4
↓ 5



2. Translate the figure 3 units right and 6 units up.

→ 3
↑ 6



Determine the new coordinates, without graphing, after each translation.

3. Translate right 5 units $(x+5, y)$

A (5,0) B (-8,-3) C (-4,9)
+5 +5 +5
 A' (10,0) B' (-3,-3) C' (1,9)

4. Translate down 12 units $(x, y-12)$

A (5,0) B (-8,-3) C (-4,9)
-12 -12 -12
 A' (5,-12) B' (-8,-15) C' (-4,-3)

5. Translate left 8 units, and up 5 units. $(x-8, y+5)$

A (5,0) B (-8,-3) C (-4,9)
-8 +5 -8 +5 -8 +5
 A' (-3,5) B' (-16,2) C' (-12,14)

6. Translate right 6 units, and down 7 units. $(x+6, y-7)$

A (5,0) B (-8,-3) C (-4,9)
+6 -7 +6 -7 +6 -7
 A' (11,-7) B' (-2,-10) C' (2,2)

Rewrite each translation using translation notation.

7. Translate left 11 units, and down 5 units

$$(x, y) \rightarrow (x-11, y-5)$$

8. Translate right 9 units, and up 5 units

$$(x, y) \rightarrow (x+9, y+5)$$

9. Translate left 16 units, and up 6 units

$$(x, y) \rightarrow (x-16, y+6)$$

10. Translate right 8 units, and down 2 units

$$(x, y) \rightarrow (x+8, y-2)$$