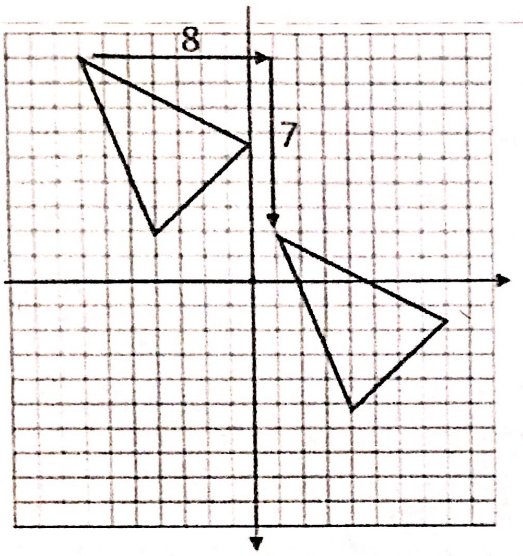
Geometry 3312 Name Key

Chapter 6 Transformations Day 1 – Translations HW

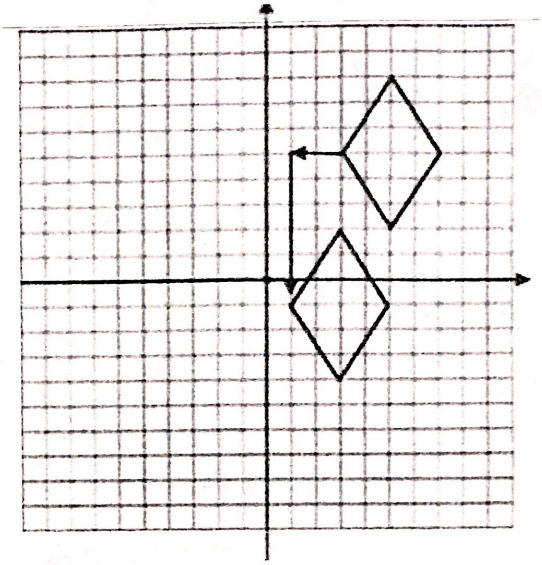
1. Describe each of the translations below. Then, write the transformation rule that maps the pre-image onto the image.

a)



$(x, y) \rightarrow (x+8, y-7)$

b)



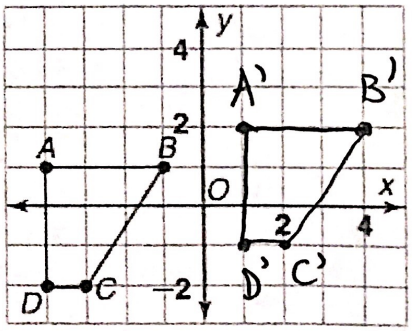
$(x, y) \rightarrow (x-2, y-6)$

2. a) Name the coordinates of the pre-image to the right.

A (-4, 1) B (-1, 1)

C (-3, -2) D (-4, -2)

right 5 units, up 1 unit



b) Use arrow notation to write a rule for the given translation.

$(x, y) \rightarrow (x+5, y+1)$

c) Graph and label the image after the translation.

d) Name the coordinates of the image.

A' (1, 2) B' (4, 2)

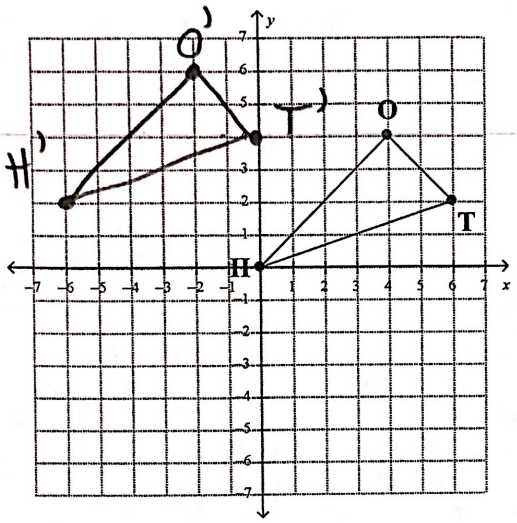
C' (2, -1) D' (1, -1)

3. MULTIPLE CHOICE: Write a description of the rule $(x, y) \rightarrow (x-7, y+4)$.

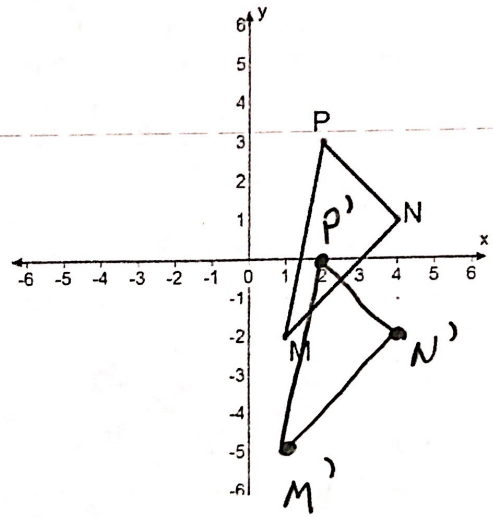
(a) translation 7 units to the right and 4 units up
(b) translation 7 units to the left and 4 units down
(c) translation 7 units to the right and 4 units down
(d) translation 7 units to the left and 4 units up

4. Apply the given transformation to each triangle below. Label the images appropriately.

a) $(x, y) \rightarrow (x-6, y+2)$

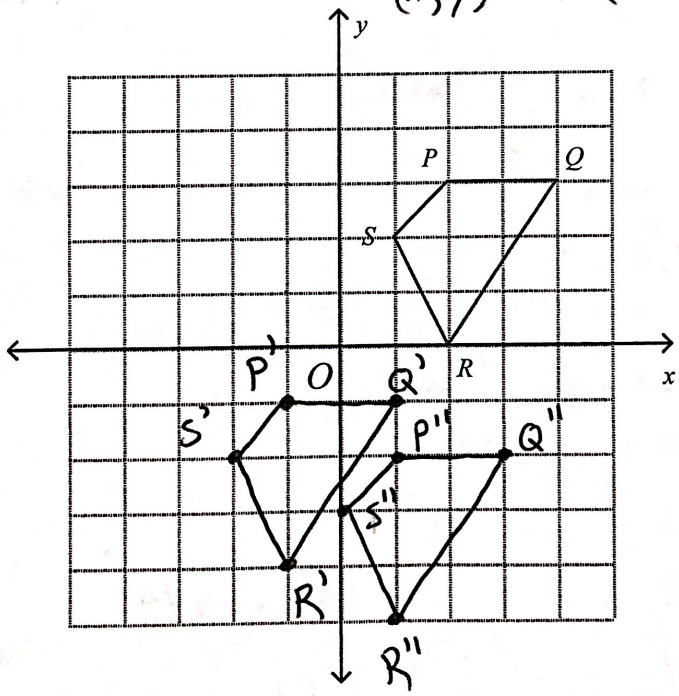


b) $(x, y) \rightarrow (x, y-3)$



5. Quadrilateral *PQRS* is plotted on the grid below.

a) On the graph, draw the translation of polygon *PQRS* three units to the left and four units down. Label the image *P'Q'R'S'*. $(x, y) \rightarrow (x-3, y-4)$



b) Now create polygon *P"Q"R"S"* by translating polygon *P'Q'R'S'* using the rule $(x, y) \rightarrow (x+2, y-1)$. List the coordinates of *P"Q"R"S" below*

P" (1, -2) Q" (3, -2) R" (1, -5) S" (0, -3)

c) Write a general rule which translates polygon *PQRS* to polygon *P"Q"R"S"*.

$(x, y) \rightarrow (x-1, y-5)$