Translation practice: use graph paper to make a grid that goes from -10 to 10 on x and y-axis.

1) Graph the point M(-2,-4). Translate M with the rule $(x,y) \rightarrow (x + 3, y - 2)$ to get M'. Label it M' with new coordinates. In words, how have you moved M?
2) Graph segment AB with A(0,0) and B(5,-3). Translate AB with the rule $(x,y) \rightarrow (x-4,y+2)$. Label the image A'B' and give the new coordinates.
3) Graph ΔXYZ with X(1,2), Y(6,3), and Z(4,5). Translate ΔXYZ with the rule $(x,y) \rightarrow (x-5,y)$ to get $\Delta X'Y'Z'$. Label the vertices of the image with coordinates. Describe the translation in words.

Reflection practice: on your graph paper make a new grid that goes from -10 to 10 on x and y-axis.

4) Graph the point N(-1,-3) and reflect it across the x-axis to get N'. Label coordinates. Reflect N' across y-axis to get N" and label coordinates.
5) Graph the segment FX with F(1,0) and X(5,-6). Reflect FX across the x-axis to get F'X' and label coordinates.
6) Graph ΔZIP with Z(1,2), I(6,3) and Z(4,5). Reflect across y-axis to get $\Delta Z'I'P'$. Label new coordinates.
7) What happens to the coordinates of the vertices of a figure when you reflect it across the x-axis? The y-axis?

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