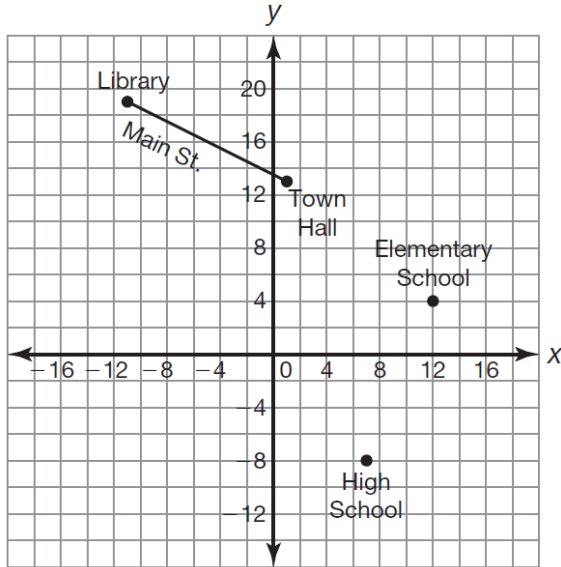


**1.2 – Translating & Constructing Line Segments**

*Use the map of Smalltown to answer each question. One mile is equal to 6 units on the map.*



1. After school today, Mica must walk from the high school to the elementary school to pick up his younger brother.

a. Determine the distance between the high school and the elementary school.

b. How many miles must Mica walk to pick up his younger brother?

2. The coordinates for the points that mark the locations of the grocery store and the post office can be determined by translating Main Street vertically 15 units down. The grocery store is located directly south of the town hall.

a. What are the coordinates of the points that mark the location of the grocery store and the post office? Explain how you determined your answers. Then, plot the points on the coordinate plane.

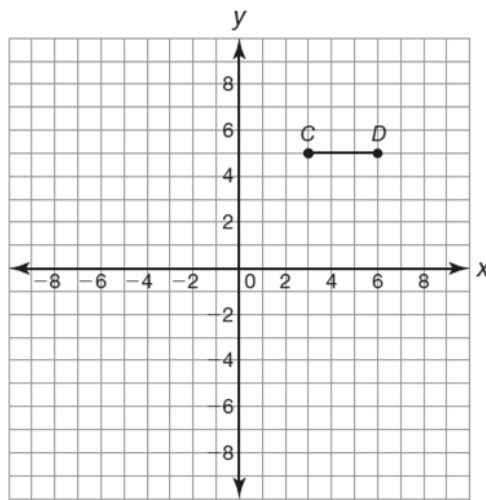
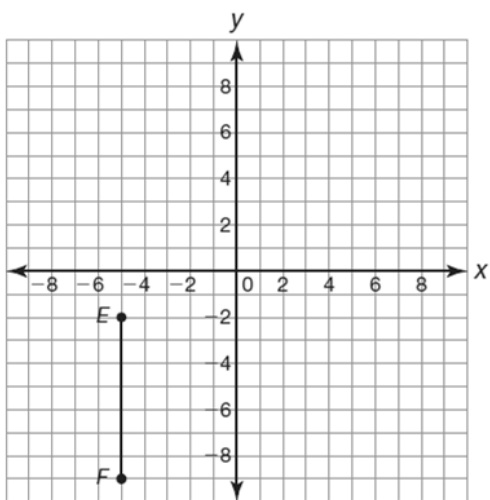
b. What must be true about the road between the post office and grocery store and Main Street? Explain how you determined your answer. Then, use the distance formula to verify your answer.

Calculate the distance between each given pair of points. Round your answer to the nearest tenth, if necessary.

3.  $(-6, 4)$  &  $(5, -1)$

4.  $(-5, -8)$  &  $(-2, -9)$

Translate each given line segment on the coordinate plane as described.

5. Translate  $\overline{EF}$  4 units up and 7 units right.6. Translate  $\overline{CD}$  9 units left and 10 units down.

7. Mari draws  $\overline{AB}$  on a coordinate plane with coordinates:  $A(1, 5)$  &  $B(-3, 2)$ . She translates the line segment 5 units to the left. She names this  $\overline{A'B'}$ . Identify the coordinates of  $A'$  &  $B'$ .

Construct each line segment described.

8. Duplicate  $\overline{EF}$ .9. Construct a line segment twice the length of  $\overline{JK}$ .