Name: _____

1.3 – Midpoints & Bisectors

Past due on: _____ Period:

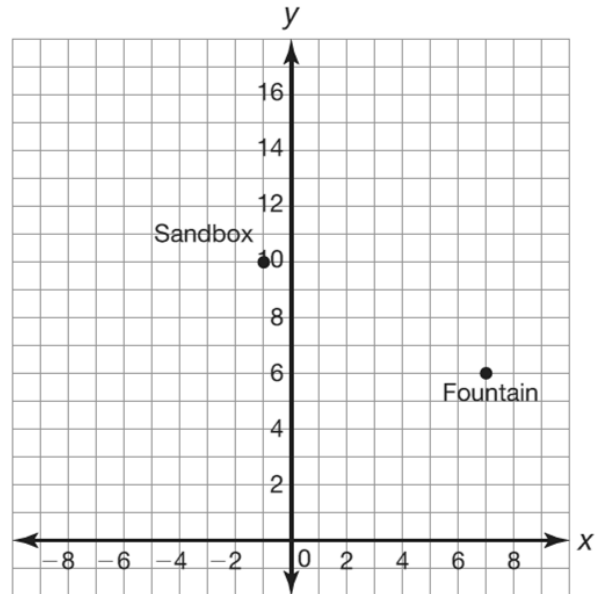***The grid shows the locations of a sandbox and a fountain in a park. Each grid square represents a square that is one meter long and one meter wide.***

1. Find the distance between the Sandbox and the Fountain.

2. You decide to meet your friend halfway between the fountain and the sandbox.

   a. Calculate the midpoint of the line segment that passes through the point representing the sandbox and the point representing the fountain. Then, plot the point.

   b. Verify your calculations in part (a) by constructing the midpoint of the line connecting the sandbox and the fountain.

3. The swings are located at $(-4, 7)$, which is halfway between the sandbox and the slide.

   a. Plot and label the point representing the swings.

   b. Calculate the location of the slide. Show your work. Then, plot and label the point representing the slide.

   c. Verify your calculations in part (b) by constructing the midpoint of the line connecting the sandbox and the slide.
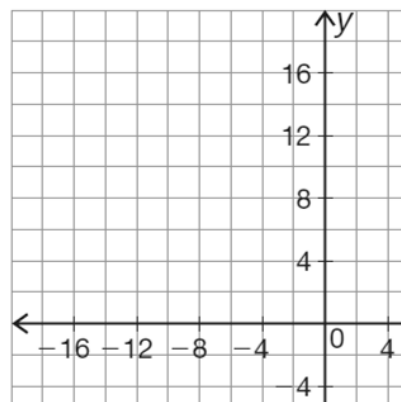
Graph the three points on the coordinate plane: $A(-10, 3), B(-4, 3), C(-7, 11)$*. Connect the three points to form triangle ABC.*

4. Find the midpoint of $\overline{AC}$. Plot and label M_1.

5. Find the midpoint of $\overline{BC}$. Plot and label M_2.

6. Connect the two midpoints M_1 & M_2.

7. Calculate the distance between points M_1 & M_2.

8. Calculate the distance between points A & B.

9. Compare the length of the midsegment – line segment M_1M_2 – of the triangle to the length of the base of the triangle, $\overline{AB}$.

Locate the midpoint of each line segment using construction tools and label it point M.

10.

11.

Chapter 1: Tools of Geometry