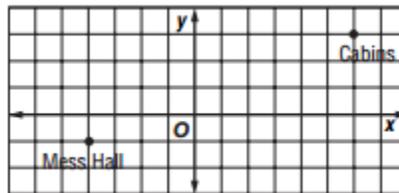1) If the midpoint of a line is (2, 3), and one endpoint of the line is the origin find the other endpoint. Show the computations to justify your solution.

2) What are the endpoints of a segment that has a midpoint of (-1, -3) and a distance of 8. Show the computations to justify your solution.

3) Troop 175 is designing their new campground by first mapping everything on a coordinate grid. They have found a location for the mess hall and for their cabins. They want the bathrooms to be halfway between these two. What will be the coordinates of the location of the bathrooms?
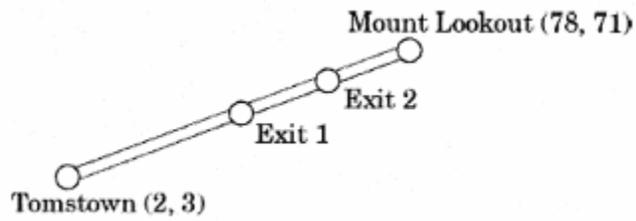

4) Calvin's home is located at the midpoint between Fast Pizza and Pizza Now. Fast Pizza is a quarter mile away from Calvin's home. How far away is Pizza Now from Calvin's home? How far apart are the two pizzerias?

5) Cali is traveling to Peru for her summer vacation. She looks at a map of the path of her flight. Her plane leaves from Georgia, located at (5, 16) on the map's coordinate grid, makes a stop at the halfway point, Panama, and then heads to its destination, Peru, located at (7, 8) on the map's coordinate grid. Find the location of Panama on Cali's map.

6) Find the midpoint of the line segment that connects the point (-13, 6) and the *x*-axis.

7) The following table provides some points that are on a line. Find the midpoint of segment *AB*.

Points	x-coordinate	y-coordinate
A	6	17
B	-5	-16
C	8	23

8) Consider the circle with two endpoints of its diameter at (-4, 1) and (3, 12). What are the coordinates of the center of this circle?

9) A small plane needs to refuel approximately halfway to its destination. It takes off from its base located at (9, -2), on the coordinate grid and its destination is located at (-3, 8). Which of the following locations is closest to halfway?
    A. (2.2, 2)
    B. (2.5, 3.5)
    C. (4, 1.5)
    D. (5, -4.5)

10) Using the map shown, the highway department locates two exits between Tomstown and Mount Lookout, Exit 1 is exactly at the midpoint and Exit 2 is three-fourths of the way to Mount Lookout.

Mount Lookout (78, 71)

Exit 2

Exit 1

Tomstown (2, 3)

What are the coordinates for each of the new exits?