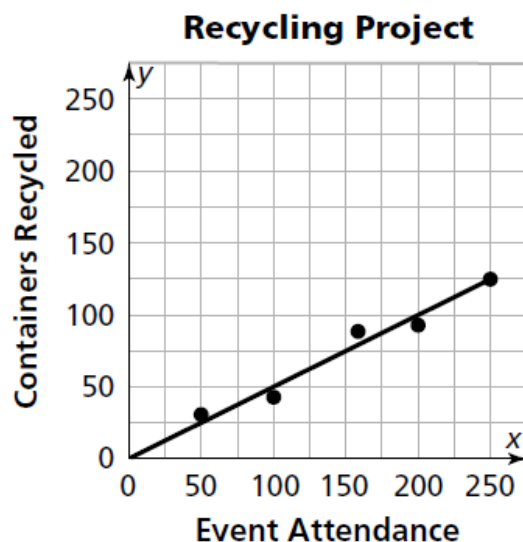# TWMM Inv. 1-2 Chapter Test Review Problems

1. At Metropolis Middle School the student government earns money by recycling cans and bottles after school events.

Some sample (*attendance, containers*) data are shown in the graph below, along with a line modeling the pattern in the data.

Recycling Project

a. Use the linear model to estimate answers for the next questions. Explain how each estimate can be found from the graph.

   i. About how many containers will be recycled if 125 people attend a chorus concert?

   ii. What attendance at a basketball game will produce about 125 containers to be recycled?

b. Use the points $(200, 100)$ and $(50, 25)$ to find an equation in the form $y = mx + b$ for the modeling line. Show your work.

c. Explain what the values of m and b in your equation tell about the relationship between number of containers to be recycled and attendance at the school event.

2. Find equations that relate these conditions.

   a. A line with slope 3.5 and y-intercept $(0, -4)$

   b. Earnings E of a disk jockey who charges $25 for travel to an event and $20 per hour h of time worked

   c. A line through $(2, 15)$ and $(6, 7)$

3. Jamal and Alisha played a round of miniature golf. They made some notes of the time it took to play. Their data are shown in the next table:

Hole Number	3	6	9	12	15	18
Time Since Start (minutes)	7	13	20	27	32	40

   a. On grid paper, graph the (*hole number, time*) data. Be sure to give the graph a title, to label the graph axes, and to indicate the scale on each axis.

   b. Describe the pattern of change you see in the graph and table.

   c. Draw a graph model.

   d. Write an equation for the graph model.

   e. Use your equation of graph model to estimate the time it took Jamal and Alisha to play the first 7 holes. Explain how you arrived at your estimate.

   f. Use your equation or graph model to estimate the time it would take Jamal and Alisha to play 27 holes. Explain how you arrived at your estimate.