5.3g Homework: From Stories to Graphs
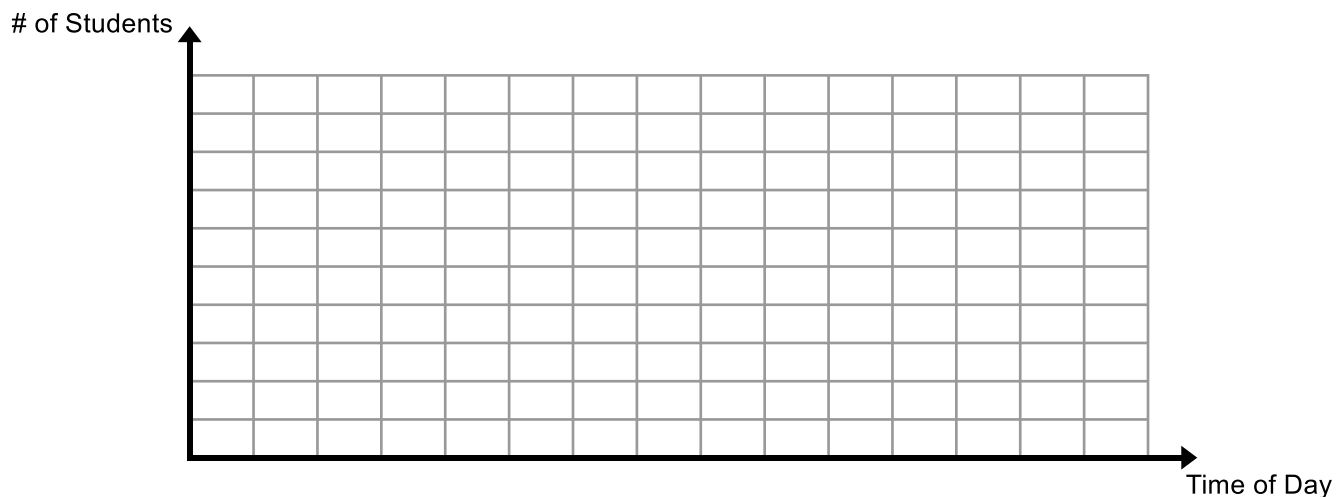**Directions:** Sketch a graph for each of the stories below.

1. Sketch a graph of the number of students in the cafeteria as a function of time throughout the school day at your school. Tell the story of your graph.
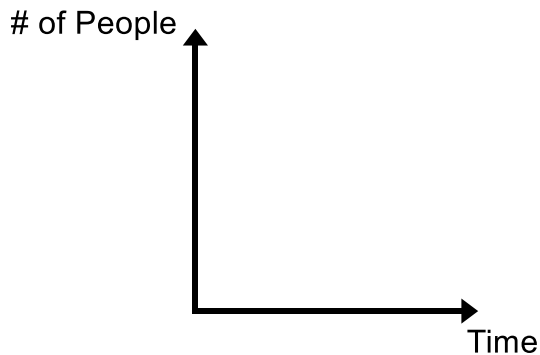
# of Students

Time of Day

2. Two thousand, five hundred students attend a local high school. School starts at 8 am and ends at 2:30 pm. Many students stay after school for clubs, sports, etc. The school has a one-hour lunch at noon and seniors are allowed to leave campus for lunch. Sketch a graph of the number of cars in the student parking lot from 6 am to 4 pm. Time 0 on the grid below is 6 am.
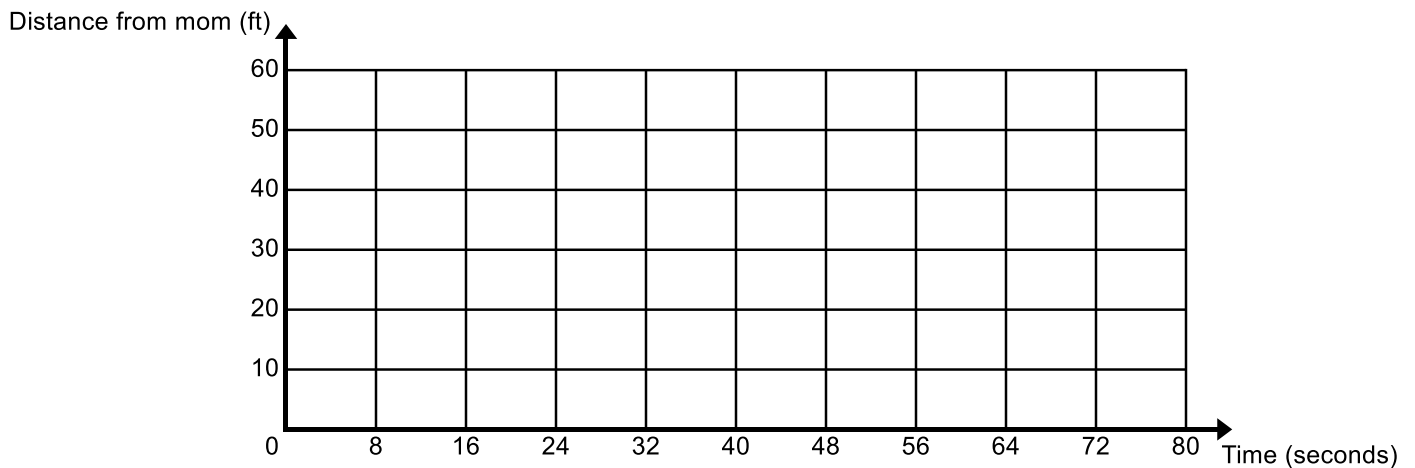
# of Cars

Time

3. A train that takes passengers from downtown back home to the suburbs makes 5 stops. The maximum speed at which the train can travel is 40 mph. Sketch a graph of the speed of the train a function of time since leaving the downtown train station.

Speed

Time

4. Sketch the graph of the total number of people that have seen the hit movie of the summer as a function of the time since opening day of the movie.

# of People

Time

5. A little girl is going around on a merry-go-round. Her mom is standing at the entrance to the ride. Sketch a graph of the distance the little girl is from her mom as she goes around if the minimum distance she is from her mom during the ride is 5 feet and the maximum distance she is from her mom is 45 feet. Assume it takes 16 seconds to make one full revolution on the merry-go-round.

Distance from mom (ft)

60
50
40
30
20
10
0   8   16   24   32   40   48   56   64   72   80   Time (seconds)

6. Yvonne is researching cell phone plans. Company A offers charges $0.05 for each text message sent. Company B offers unlimited texting for $25 per month. Company C charges $10 per month for up to 500 text messages and an additional $0.10 for each text message over 500. Sketch and label a graph that shows the relationship between number of texts sent and total monthly cost for each of the plans.

Cost ($)

60	
50	
40	
30	
20	
10	

0   100   200   300   400   500   600   700   800   900   1000   **# of Texts**