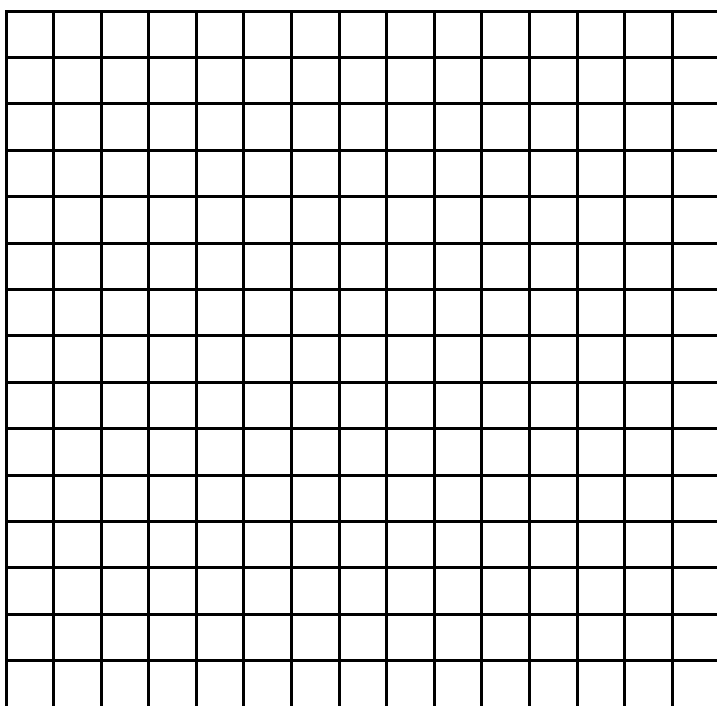**Science 1206 Physics Worksheet 4: Graphing**

Instructions: Complete each of the following questions showing all calculations.

1.   A car leaves Borden-Carleton, PEI, on its way across the Confederation Bridge into New Brunswick. The distances and times from the tool booth in PEI are listed below. They include a short stretch of road beyond the end of the 12.9 km bridge.

Car Crossing Confederation Bridge

Time (min)	Distance (km)
0.0	0.0
2.0	2.4
4.0	4.8
6.0	7.2
8.0	9.6
10.0	12.0
12.0	14.4

A) Plot a distance-time graph using the information in the table. Draw a best-fit straight line.

B) Using your graph, find the time required to cross the bridge._____

C) Using your graph, find the distance travelled after 5 min. _____

D) Was the car's speed constant during the trip across the bridge? How do you know?

_____

E) Calculate the slope of the graph. What does this slope represent?

F) What is the speed of the car in km/h?_____

2.   The cheetah is the fasted land animal and can accelerate rapidly in an attack. The table below shows some typical speeds for a cheetah.

Acceleration of a Cheetah

Time (s)	Distance (m)
0.0	0.0
0.5	5.0
1.0	10.0
1.5	15.0
2.0	20.0

A)Draw a distance-time graph for this data.

B)Using your graph, calculate the average speed of the cheetah.