**4.5 – Using Graphs to Estimate Values**

Linear graphs can be useful to make quick estimations for data. When we estimate values that are between two data points on the graph, it is called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. When we estimate values that go beyond the graph, assuming the relation continues to be linear, it is called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

Ex. 1: The graph below shows how the speed in metres per second relates to a speed in kilometres per hour.



1. Estimate the speed, in metres per second, of:
2. A car that is travelling at 70 km/h
3. A train that is travelling at 140 km/h
4. Estimate the speed, in kilometres per hour, of:
5. A racing car that is travelling at 60 m/s
6. A bicycle that is travelling at 8 m/s

Ex. 2: Use this graph of a linear relation.



1. Determine the value of $y$ when $x=5$
2. Determine the value of $x$ when $y=3$