KEY

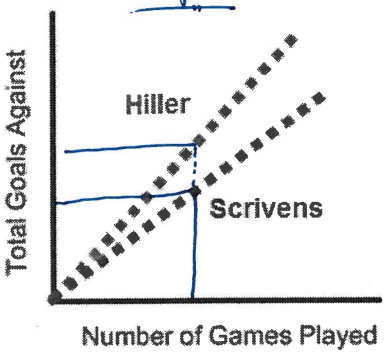
Math 10C

L25 – 6.1 Graphs and Relations

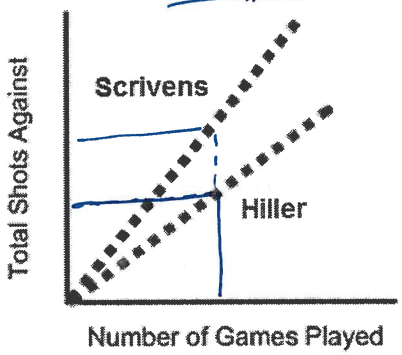
Part 1 – Comparing Graphs

A student uses graphs to compare two NHL goalies in the 2014-15 hockey season. Ben Scrivens was a goalie for the Edmonton Oilers (blue line), and Jonas Hiller was a goalie for the Calgary Flames (red line).

Graph 1



Graph 2



Q1: Using the graphs as evidence, which goalie is the better goalie? Explain.

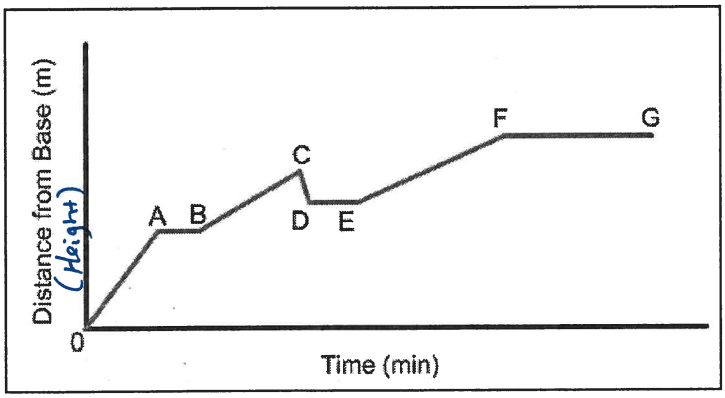
In graph #1, after some amount of games played, Scriven's has let in less goals, so he is probably the better goalie.

Q2: Using the graphs as evidence, which team had the better defensemen? Explain.

In graph #2, after some amount of games played, Scrivens has had more people shoot at his goal. Hiller's defensemen are probably better.

Part 2 – Drawing Conclusions from a Graph

The following graph shows the distance a rock climber is from the base of a cliff.



Note: Not moving sideways.

Q3: Using the words "climbing", "resting", or "descending", describe what the climber is doing during each segment.

OA - Climbing
AB - Resting
BC - Climbing
CD - Descending
DE - Resting
EF - Climbing
FG - Resting

Q4: For any section you labelled as "climbing", how would you change the graph to show that the person is climbing faster? Explain.

Steeper line segment, i.e. "faster rate of change"

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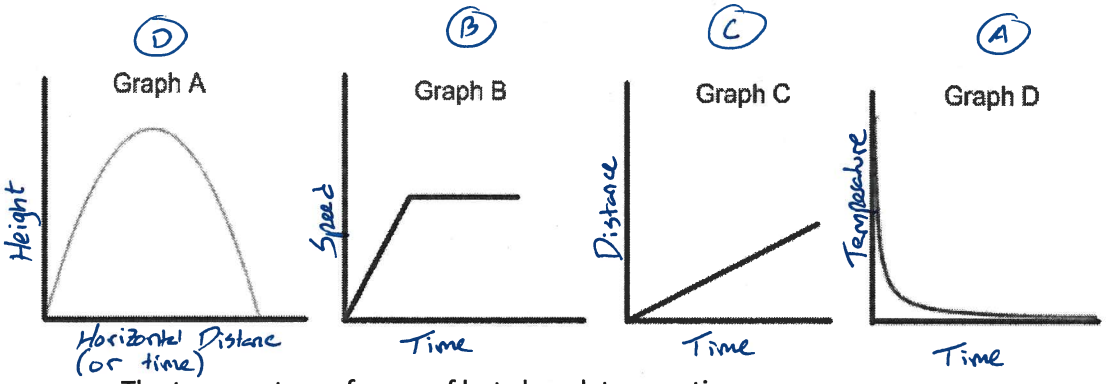
Part 3 – Identifying the Correct Graph

Q5: Match each graph with a situation from the list. Explain your choice. Suggest titles for each axis to show the quantities being compared.



a. The temperature of a cup of hot chocolate over time

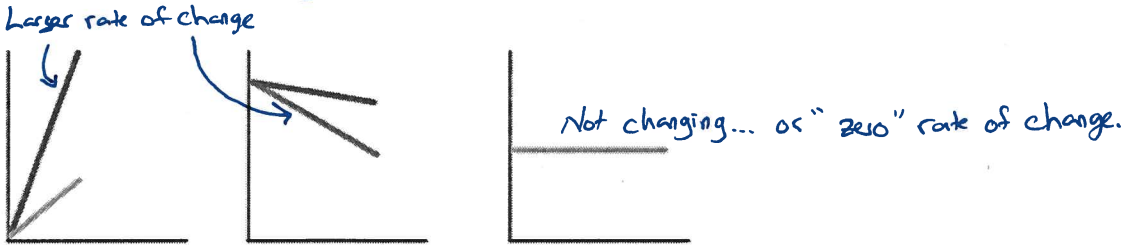
b. A car accelerating to a constant speed

c. The distance a person walks during a hike

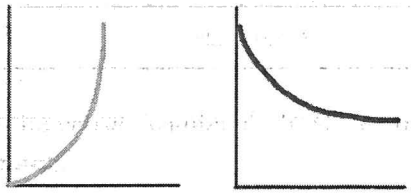
d. The height of a punt across a field

Part 4 – "Big Picture" Idea of Rate of Change

A graph is an effective way to show the relationship between two quantities. A constant rate of change is represented graphically by a straight line. The steepness of the line indicates the rate of which one quantity is changing in relation to the other.



Not all relationships are represented by a straight line. A curve shows that the rate of change is not constant.



Part 5 – Textbook Practice

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