Foundations of Math 10 LG 7
INTRO TO GRAPHING

INTRODUCTION:
One of the strengths of mathematics is showing the relationship between two different sets of data on a graph. Graphs are often used as a visual representation of a situation. To find out how we can use a graph to compare the career statistics of Roberto Luongo and Martin Brodeur, check out page 268.

LEARNING GUIDE EXPECTATIONS:

On the completion of this learning guide you will be able to:

1) describe a possible situation for a given graph
2) sketch a possible graph for a given situation
3) determine if a relation is linear and explain why or why not
4) represent linear relations in a variety of ways
5) identify independent and dependent variables in a relation
6) explain why data points should or should not be connected on the graph

EVALUATION:
You are ready to progress to the next learning guide when you can demonstrate your understanding of the above expectations. Please refer to your Foundations of Mathematics 10 Marks Record Sheet to determine the assessment.

RESOURCES NEEDED:
Mathematics 10 Text

LEARNING ACTIVITIES:

Expectation 1: describe a possible situation for a given graph
Expectation 2: sketch a possible graph for a given situation

1. Watch and take notes on instructional video on Modeling Situations with Graphs.

2. Read the Link the Ideas section on page 270, and the Key Ideas section on page 273. In your Math Journal, complete the following:
   a) explain how to represent a constant rate of change on a graph
   b) state what the steepness of a line indicates on a graph (include diagrams)
   c) explain what a horizontal line on a graph means
   d) describe what a curve on a graph represents

3. In the Mathematics10 text, work through Examples 1-3 on pages 271 - 273. Now Complete #1, 2, 6, 9, 10, 11, 12, 14, on pages 274 – 277.

4. For extra practice, click here. For the answers to the extra practice, click here.

Expectation 3: **Determine if a relation is linear and explain why or why not**
Expectation 4: Represent linear relations in a variety of ways
Expectation 5: Identify independent and dependent variables in a relation
Expectation 6: Explain why data points should or should not be connected on the graph

1. Watch and take notes on instructional video on Linear Relations.

2. Read the Link the Ideas section on pages 280 – 282. In your Math Journal, complete the following:
   a) define a mathematical relation (use the purple box on page 279 to help you)
   b) describe the three ways that a relation can be presented
   c) define a linear relation and a non-linear relation
   d) describe three ways to determine whether a relation is linear or non-linear.
   e) define discrete data and continuous data and illustrate the difference between them using a graph
   f) define independent variable and dependent variable
   g) describe the locations of independent and dependent variables in a table and on a graph.

3. In the Mathematics 10 text, work through Examples 1-3 on pages 282 - 286. Now complete # 1, 2, 3, 4, 5, 7, 8, 12.

4. For extra practice, click here. For the answers to the extra practice, click here.

REVIEW AND CHALLENGE

1. In the Mathematics 10 text, complete Ch 6 Review questions # 1 – 6 (pages 330 – 331)

PRACTICE QUIZZES

Practice quiz #1 (only do questions #1-4, 6)
Practice quiz #2
Practice quiz #3
Practice quiz #4
Practice quiz #5