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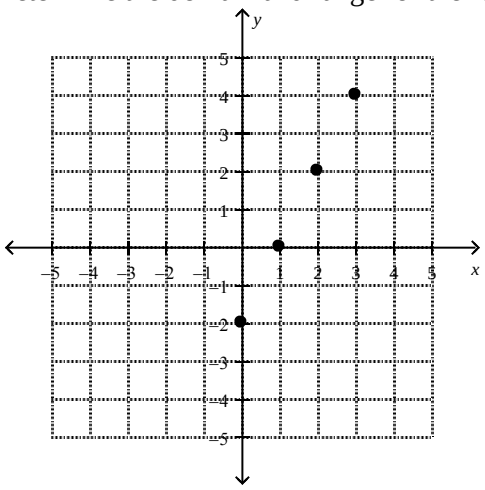
Foundations of Math 10 LG 7/8 Version A /20

Expectation 1: explain and express the meaning of domain and range

1. Determine the domain and range for the following relation. **(1 mark)**



Expectation 2: sort relations into functions and non-functions

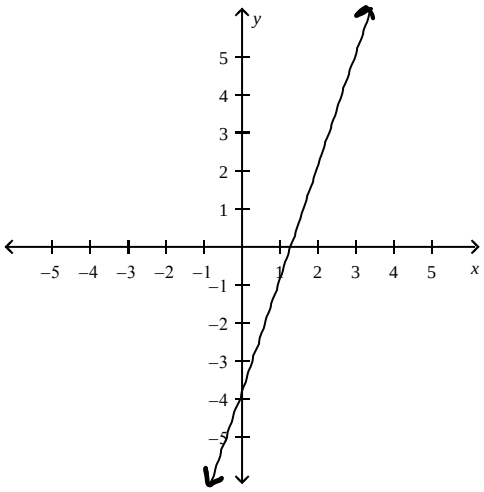
2. Is the following relation a function? Explain how you know. **(2 Marks)**

{(3, 4), (6, 8), (9, 5), (3, 3)}

3. Given the equation $f(x) = -6x - 2$, determine $f(5)$ **(1 mark)**

Expectation 3: use function notation

4. State the domain of this function in set notation. **(1 mark)**



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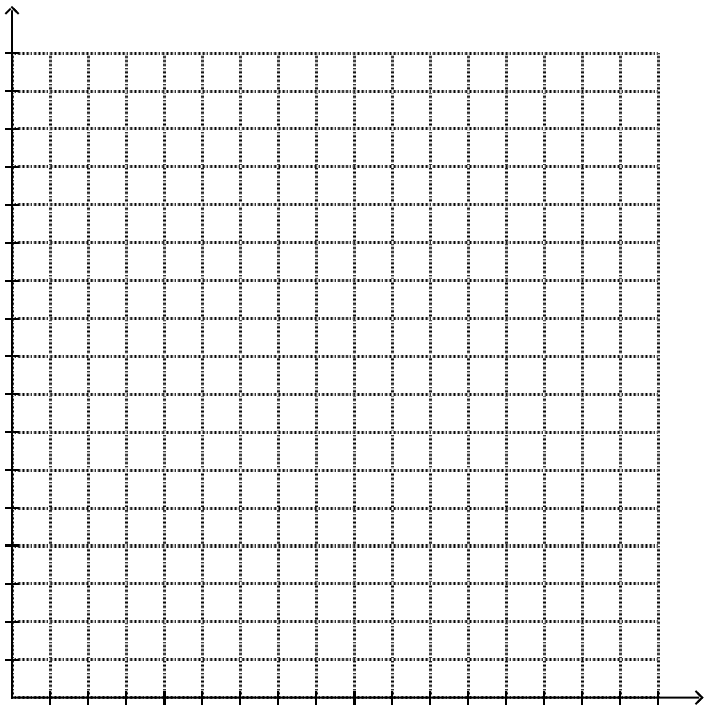
Expectation 4: graph linear functions

5. An amount of $1000 is deposited in a savings account and earns simple interest. The table shows the amount of money in the account at the end of each year.

Year	Amount ($)
0	1000
1	1100
2	1200
3	1300

a) Is this a linear or non-linear relation? **(1 mark)**

b) Graph the relation. **(2 marks)**



c) Which is the dependent variable? Which is the independent variable? **(1 mark)**

d) How long will it take for the account to reach a value of $2200? **(1 mark)**

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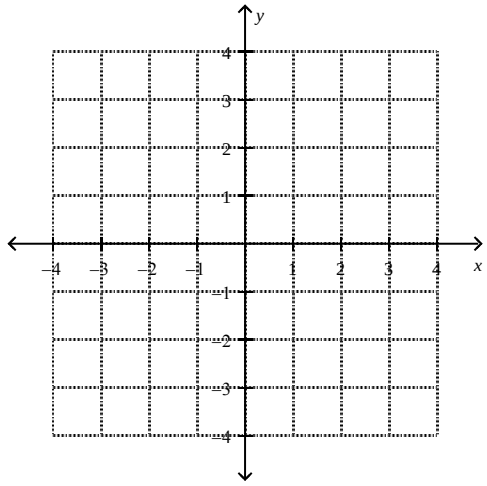
6. Points Q(3, –1) and P(-2, 2) are on a line. **(2 marks)**

a) Plot points Q and P and draw a line through them.



b) Determine the slope of the line.

Expectation 5: determine the slope of a line and use slope to draw lines

7. Determine the slope given the rise and the run. **(1 mark)**
rise = 4, run = –1

8. Determine the rise and the run from the first point to the second point. **(1 mark)**
P(2, 0) and Q(–2, 4)

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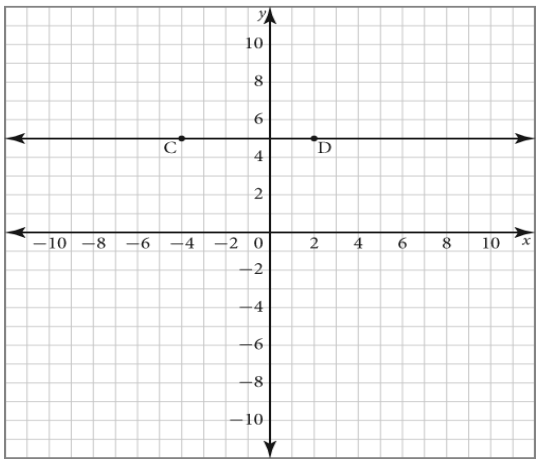
9. Use the graph to answer parts a) to d). **(2 Marks)**



a) State the coordinates of points C and D. _____

b) What is the rise from point C to point D? _____

c) What is the run from point C to point D? _____

d) Find the slope of the line through points C and D. _____

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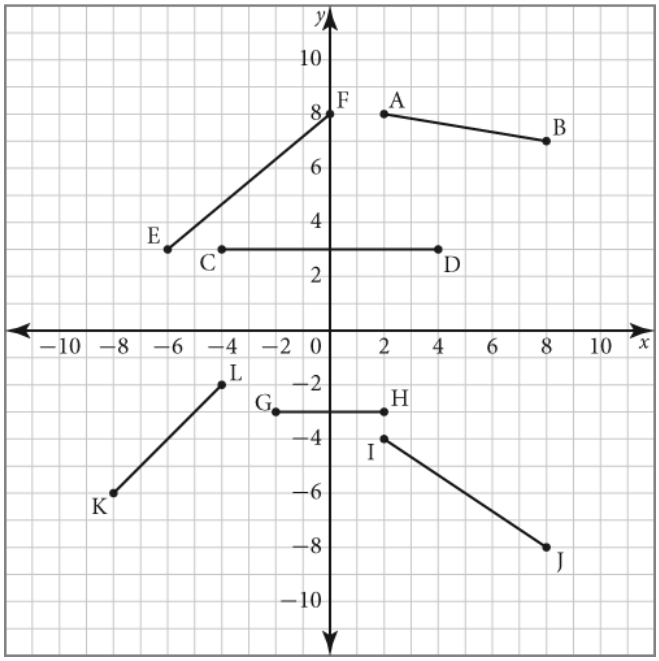
Expectation 6: explain how slope represents a rate of change

10. Which of the following line segments have a negative slope? **(1 mark)**

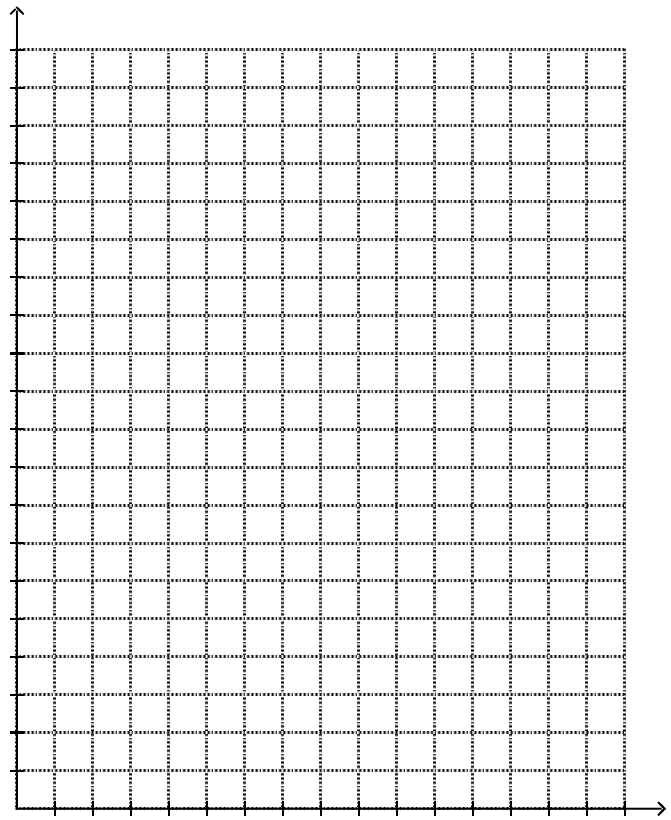


Expectation 7: solve problems involving slope

11. Jill earns \$8 per hour working at a fast-food restaurant. She takes the bus to and from work for a total of \$4 a day. Jill's daily net earnings can be represented by the function $E(t) = 8t - 4$ where t is the time in hours that Jill works and E represents her earnings in dollars. **(3 marks)**

a) Make a table of values of Jill's net earnings for values of t from 1 to 4.

b) Graph the relation.



c) How much does Jill earn if she works for 8 h?