

Rising Grade 8 Math (Integrated Math I)

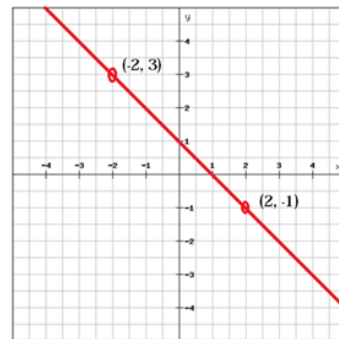
REQUIRED Summer REVISION Packet

You MUST complete the problems in this packet. The goal of this packet is to help you review the critical algebra skills we began learning in 7<sup>th</sup> grade so that you are prepared for the first unit of IMPI.

If you have questions, I will be checking my work email about once a week from June 17<sup>th</sup> – August 16<sup>th</sup>. My email address is [ghiltebrand@barrie.org](mailto:ghiltebrand@barrie.org).

Beginning August 19<sup>th</sup>, you should begin reaching out to the new math teacher, Ann Smith. Her email will be available on the school website.

1. Use the graph at the right.
  - a. Find the slope of the line.
  - b. Find the equation of the line.



2. Does the table below represent a linear relationship? If so, write an equation for that relationship. If not, explain.

Time (s)	Distance (m)
0	6
2	12
5	21
6	24
8	30

3. Solve each equation for  $x$ . Show your work.

a.  $5x - 7 = 23$

b.  $12 + 2x = 8x - 3$

c.  $4(x + 3) = 28$

4. Match a table (A–D) with a graph (E–H) and an equation (J–M).

List your results below in four groups, where each group contains one table, one graph, and one equation that all represent the same linear relationship.

Group 1:

Group 2:

Group 3:

Group 4:

Table: \_\_\_\_\_

Table: \_\_\_\_\_

Table: \_\_\_\_\_

Table: \_\_\_\_\_

Graph: \_\_\_\_\_

Graph: \_\_\_\_\_

Graph: \_\_\_\_\_

Graph: \_\_\_\_\_

Equation: \_\_\_\_\_

Equation: \_\_\_\_\_

Equation: \_\_\_\_\_

Equation: \_\_\_\_\_

**A.**

$x$	$y$
-2	7
-1	5
0	3
1	1
2	-1

**B.**

$x$	$y$
-2	3
-1	3
0	3
1	3
2	3

**C.**

$x$	$y$
-2	-11
-1	-7
0	-3
1	1
2	5

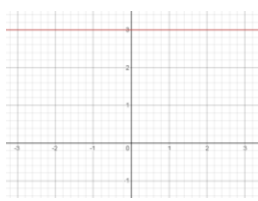
**D.**

$x$	$y$
-2	-2
-1	-1.5
0	-1
1	-0.5
2	0

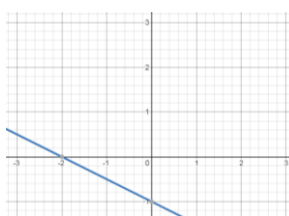
**E.**



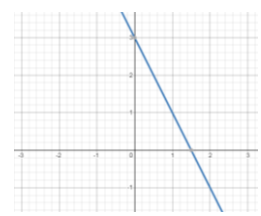
**F.**



**G.**



**H.**



**J.**  $y = 3$

**K.**  $y = -2x + 3$

**L.**  $y = 4x - 3$

**M.**  $y = -0.5x - 1$

5. To encourage new customers, a new movie theater is offering different ways to pay for a movie.

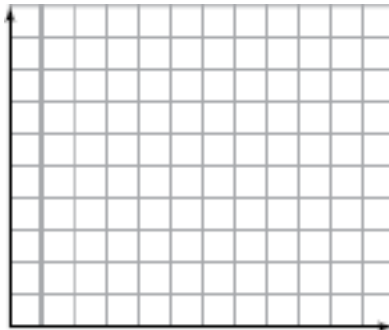
- Members: \$50 a year plus \$3 per movie
- Nonmembers: \$7.50 to see a movie

a. Make one table that shows the number of movies  $n$  and the cost for members  $C_1$ . Make another table that shows the number of movies  $n$  and the cost for nonmembers  $C_2$ . For both tables, include values of  $n$  from 0 to 50 movies, in increments of 10.

$n$	$C_1$

$n$	$C_2$

b. On the same set of axes, graph the relationship between cost and number of movies for members and for nonmembers.



- c.** Write equations that you can use to calculate the cost for members  $C_1$  and nonmembers  $C_2$  for any number of movies  $n$ .

Equation for members: \_\_\_\_\_

Equation for nonmembers: \_\_\_\_\_

- d.** What is the slope of each line in part (c)?

Slope of equation for members: \_\_\_\_\_

Slope of equation for nonmembers: \_\_\_\_\_

- e.** What information does the slope of each line represent about the membership and nonmembership costs?

- f.** Explain how you could find the slope from a table, a graph, and an equation.

- g.** What information does the  $y$ -intercept of each line represent about the membership and nonmembership costs?

- h.** For what number of movies will the cost be the same for both members and nonmembers? Explain how you found your answer.