

Integrated Mathematics I - Linear Relations Assessment

Name: _____

- Show your method clearly. Include diagrams or sketches if this will help to explain your work.
- Justify/verify every answer. Remember, explaining what you did is not a justification.
- You may seek help from any source available to you, but your write-up must be done independently.

Before you begin: Choose 4 different integers between 1 and 10. Make a your smallest number and d your largest. (Do not choose 1,2,3,4 etc)

My integers are $a=$ ____, $b=$ ____, $c=$ ____, $d=$ _____

1. A line goes through the points (a, b) and (c, d) . Write an equation for this line in slope-intercept form. Then rewrite the equation in standard form. Don't forget to show all workings and justify your answers. (GDC INACTIVE)

M:	/3
A:	/2
C:	/1
J:	/2
Tot	/8

2. Draw the graph of the equation $y = ax - d$ by hand showing all your steps. Include a table of values in your solution. (GDC INACTIVE)

G:	/3
A:	/1
C:	/1
T:	/2
Tot	/8

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3. Write an equation for the line that has a slope of $\frac{b}{a}$ and passes through the x -axis at $(d, 0)$. Then rewrite the equation in standard form. Graph the line and show a data table. Don't forget to show all workings and justify your answers. (GDC ACTIVE)

M:	/3
A:	/2
C:	/1
G:	/2
T:	/1
Tot	/9

4. Graph the equation $ax + by = c \times d$. Use ANY method you want, but clearly communicate to me WHAT method you are using. Don't forget to show all necessary workings and justify your answers. (GDC ACTIVE/OPTIONAL)

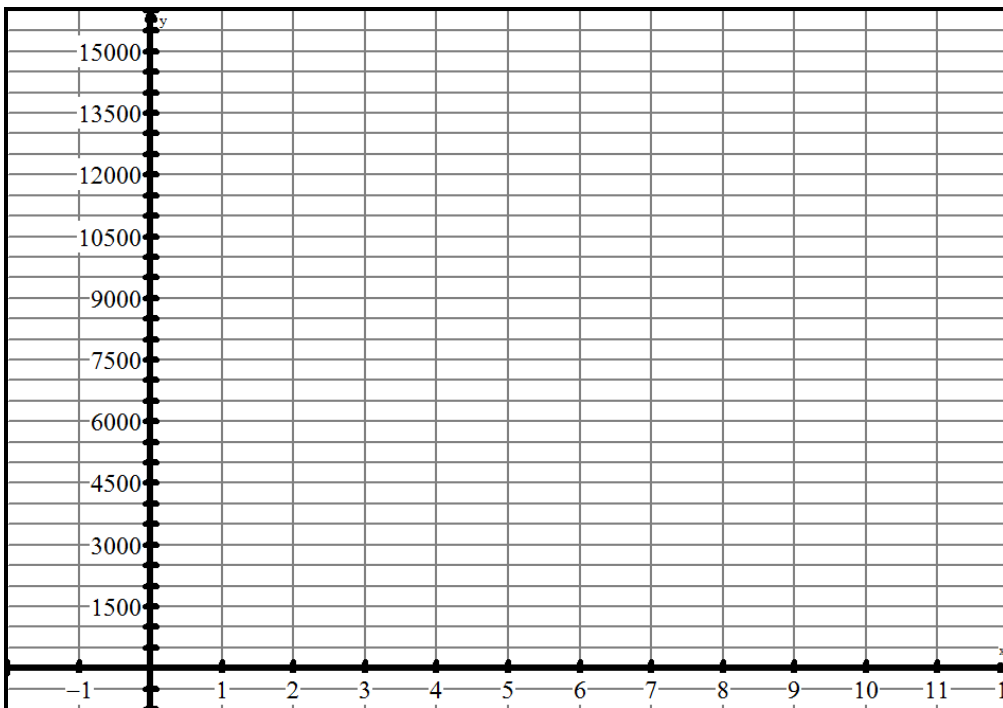
M:	/3
A:	/1
C:	/1
G:	/2
Tot	/7

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5. **ADVANCED LEVEL QUESTION:** Mr. Santowski's brother works as a carpenter and runs his own business. His monthly income for 10 consecutive months is shown on a data table below.

Month	0	1	2	3	4	5	6	7	8	9	10
Income	0	1,500	2,500	4,000	5,500	7,500	9,000	10,500	11,800	13,500	15,200

- a. Graph the data.
- b. DESCRIBE the trend that appears in both the data table and in the graph.
- c. We will use a linear equation to show the relationship between the month worked and the income earned. Therefore, you will now determine this linear equation. Show ALL work and STATE all assumptions that you are making.
- d. Graph the linear equation that you determined in Part (c).



1	Very little is correct, but you tried something!
2	Method is wrong, Algebra is OK
3	Method is OK and Algebra is OK
4	Method is good, some Algebra errors
5	M & A is correct