 CAC CAIRO AMERICAN C • O • L • L • E • G • E	IM2 Quiz 2.1	
	Name: _____	Date: _____
Teacher: Mr. Dunham	Calculator: Active	
Marks: _____ out of 30	Raw Grade: _____	Adjusted Grade: _____

Predicted Raw Score: _____ out of 30

A relation is defined by the following points: $\{(-2, 8), (3, 3), (5, 6), (-1, 8), (3, 12), (-2, 13)\}$

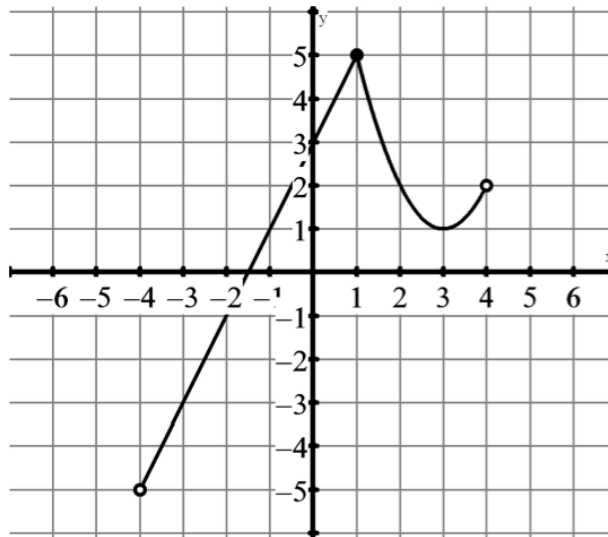
1a. **[3 marks]** Draw a mapping diagram for this relation.

1b. **[2 marks]** State the range of this relation.

1c. **[1 mark]** Find the value of y when $x = 5$.

1d. **[2 marks]** Mr. Smith decides that this relation is NOT a function. He explains that the output value of 8 results from two different input values of -1 and -2 . Is Mr. Smith correct? Explain why or why not.

The graph of the function $y = g(x)$ is given. use the graph to answer the following questions.



2a. **[2 marks]** Find $y = g(-2)$

2b. **[3 marks]** Write the domain of $y = g(x)$ and use set notation when giving your answer.

2c. **[2 marks]** For what value of x is $g(x) = -4$?

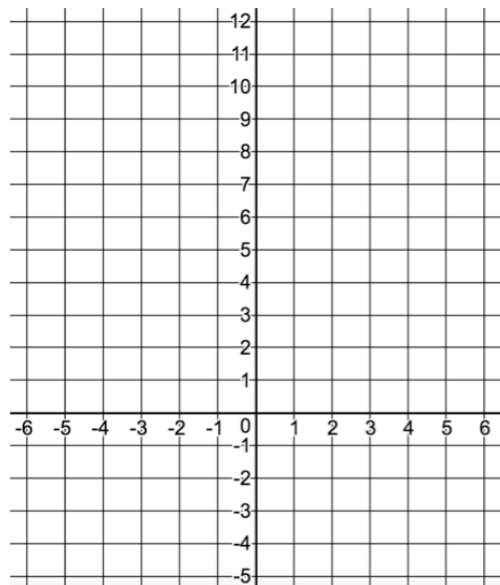
2d. **[2 marks]** For what values of x is $g(x) = 2$?

2e. **[2 marks]** Mr. Smith is going to add a point to the graph of this function so that the resulting relation will no longer be a function. Explain where he can add a point.

You are given a linear function: $f(x) = 9 - 3x$.

3a. **[3 marks]** If the domain of the function is $\{x \in R \mid -1 \leq x < 4\}$ determine the range, write your answer in set notation..

3b. **[3 marks]** Based on the domain and range from part a, sketch this function on the graph below



3c. **[3 marks]** If $f(x) = 9 - 3x$ and $f(B) = 3$, what is the value of B ?

3d. **[2 marks]** If the domain of $f(x) = 9 - 3x$ was changed to $\{-1, 0, 1, 2, 3\}$ what would the new range be?