

Section 1: Introduction

- 1. This document is intended to provide information regarding the project.
- 2. The purpose of this document is to outline the objectives and scope of the project.

Section 2: Objectives and Scope

Section 3: Methodology

Section 4: Results

Section 5: Discussion

Section 6: Conclusion

Section 7: References

Section 8: Appendix

Section 9: Acknowledgments

Section 10: Contact Information

Section 11: Additional Information

QUESTION 1

ANSWER 1

The first part of the question asks for the definition of a function. A function is a set of ordered pairs where each first element is associated with exactly one second element.

The second part of the question asks for the domain and range of a function. The domain is the set of all first elements, and the range is the set of all second elements.

The third part of the question asks for the graph of a function. The graph is a set of points in the Cartesian plane where each point represents an ordered pair in the function.

The fourth part of the question asks for the composition of two functions. The composition of two functions f and g is a function h defined by $h(x) = f(g(x))$.

QUESTION 2

The first part of the question asks for the definition of a linear function. A linear function is a function of the form $f(x) = mx + b$, where m and b are real numbers.

The second part of the question asks for the slope and y-intercept of a line. The slope is the coefficient of x in the equation of the line, and the y-intercept is the constant term.

The third part of the question asks for the equation of a line given two points. The equation of a line passing through two points (x_1, y_1) and (x_2, y_2) is $y - y_1 = \frac{y_2 - y_1}{x_2 - x_1}(x - x_1)$.

The fourth part of the question asks for the equation of a line given a point and a slope. The equation of a line passing through a point (x_1, y_1) with slope m is $y - y_1 = m(x - x_1)$.

The fifth part of the question asks for the equation of a line given a point and a normal vector. The equation of a line passing through a point (x_1, y_1) with normal vector (a, b) is $a(x - x_1) + b(y - y_1) = 0$.

The sixth part of the question asks for the equation of a line given two normal vectors. The equation of a line passing through the intersection of two lines with normal vectors (a_1, b_1) and (a_2, b_2) is $a_1(a_2y - b_2x) - a_2(a_1y - b_1x) = 0$.

