

(C2-9.1a)

Name:

Homework Questions 1 – Increasing/decreasing and Stationary Points

1. Given the function $f(x) = 4x^2 - 3x + 2$

Find the gradient and hence state if the function is increasing, decreasing or stationary when:

a) $x = 4$

29 Increasing

b) $x = -5$

-43 Decreasing

c) $x = 2$

13 Increasing

d) $x = 0.375$

0 Stationary

2. For what values of x is the graph below increasing

$$y = 3x^3 + 4x^2 + 8$$

$$-\frac{8}{9} \leq x \leq 0$$

3. For what value of x is the graph below stationary

$$y = 6x^2 - 3x + 2$$

$$\frac{1}{4}$$

4. For what value of x is the graph below decreasing

$$f(x) = \frac{1}{3}x^3 - 4x + 3$$

$$-2 < x < 2$$

5. Given the function below, prove if the graph is increasing, decreasing or stationary?

$$f(x) = 5x^2 - 8x + 2$$

a) *When $x = 4$*

Increasing

b) *When $x = -2$*

Decreasing

c) *When $x = 0.8$*

Stationary