

(C2-9.2) Name:

Homework Questions 2 – Turning Points

1. Find the *coordinate* of the turning points of the following functions

a) $f(x) = 5x^2 - 10x + 7$

b) $y = 3x^2 - 3x + 9$

c) $y = 6x^2 + 4x + 3$

d) $f(x) = 4x^2 + 12x - 11$

2. Find the *x-coordinates* of both the turning points of the following functions

a) $y = \frac{x^3}{3} + \frac{5x^2}{2} + 6x + 7$

b) $f(x) = \frac{x^3}{3} + \frac{6x^2}{2} - 7x + 12$

c) $f(x) = \frac{x^3}{3} + \frac{3x^2}{2} - 14$

5. Given the function below, find the coordinate of the turning point *and prove* that it is a minimum turning point

$$f(x) = 4x^2 + 4x - 1$$

6. Given the function below, find the coordinates of *both* the turning points *and prove* which is the maximum and which is the minimum turning points

$$y = \frac{x^3}{3} - \frac{x^2}{2} - 12x + 5$$