

Increasing, Decreasing, Concavity WS 2

Directions: Find where y is a) increasing/decreasing, b) concave up/concave down, and c) where the relative maximum(s) and minimum(s) are and d) where the inflection point(s) are, if any.

$$1) y = x^3 - 9x - 6$$

$$2) y = -x^3 - 6x^2 - 9x - 4$$

$$3) y = (x^2 - 4)(9 - x^2)$$

$$4) y = \frac{x^4}{4} - 2x^2$$

$$5) y = xe^{x^2}$$