

EMT111 Practice Problems

Maxima and Minima

November 11, 2011

1. Find all relative extrema of the given functions.

(a) $f(x) = (x - 3)^3$

(b) $f(x) = (x - 1)^{1/3}$

(c) $f(x) = \frac{x}{x+1}$

(d) $f(x) = x^3 - 6x^2 + 15$

(e) $f(x) = x^4 - 32x + 4$

2. Find the absolute extrema of the given functions on the given closed intervals.

(a) $f(x) = 2(3 - x)$ on $[-1, 2]$.

(b) $f(x) = x^2 + 2x - 4$ on $[-1, 1]$

(c) $f(x) = \frac{1}{3-x}$ on $[0, 2]$.

(d) $g(t) = \frac{t^2}{t^2+3}$ on $[-1, 1]$.