Quiz 7 Practice

For each function below, find the intervals on which f is increasing/decreasing and the local extrema.

(i)
$$f(x) = 5x^2 - 10x - 3$$

(ii)
$$f(x) = -3x^3 - 9x^2 + 72x + 20$$

(iii)
$$f(x) = x^4 + 4x^3 + 30$$

$$(iv) f(x) = (x+3)e^{x}$$