Extrema on an Interval

1. Find any critical numbers of the function (similar to p.209 #12)

$$f(x) = x^4 - 18x^2$$

2. Find any critical numbers of the function (similar to p.209 #13)

$$f(x) = x^2\sqrt[3]{x-2}$$

3. Find any critical numbers of the function (similar to p.209 #14)

$$f(x) = \frac{x+2}{x-5}$$

4. Find any critical numbers of the function (similar to p.209 #14)

$$f(x) = \sin x + \cos^2 x$$
$$0 < x < 2\pi$$

5. Find any critical numbers of the function (similar to p.209 #17)

$$f(x) = x^2 e^{3x}$$

6. Locate the absolute extrema of the function on the closed interval (similar to p.209 #21-42) NEXT TIME SPRING 2013

$$f(x) = 2x^3 - 6x, \quad [0,5]$$

7. Locate the absolute extrema of the function on the closed interval (similar to p.209 #21-42)

$$f(x) = \frac{x}{x+5}, \quad [2,5]$$

8. Locate the absolute extrema of the function on the closed interval (similar to p.209 #21-42)

$$f(x) = -2\sin x, \quad [0,2\pi]$$

9. Locate the absolute extrema of the function on the closed interval (similar to p.209 #21-42)

$$f(x) = \cos\left(\frac{\pi x}{4}\right), \quad [0,8]$$

10. Locate the absolute extrema of the function on the closed interval (similar to p.209 #21-42)

$$y = \frac{\ln x}{x^2}, \quad (0,4]$$