

Critical & Extreme Values (4.2)

Finding Relative Maxima and Minima: Find the critical values of each function. State the intervals on which the graph is increasing/decreasing. Identify the maxima and minima values.

1) $y = -x^3 + 2x^2 + x - 6$

2) $y = -\frac{x^2 - 2x - 15}{x - 6}$

f' _____
x
y

f' _____
x
y

3) $y = -2 \sin 2x$

4) $y = (2x - 8)^{\frac{2}{3}}$

f' _____
x
y

f' _____
x
y

Finding Absolute Maxima and Minima: Find the absolute maxima and minima.

5) $y = x^4 - 3x^2 + 4$; $[-1, 1]$

6) $y = (x + 2)^{\frac{2}{3}}$; $[-4, -2]$

7) $y = \frac{x^2}{3x - 6}$; $[3, 6]$

8) $y = -2 \cos 2x$; $[-\pi, \pi]$