

Practice for Math 150 Test 4

1. Find the intervals of increase and decrease for $f(x) = \frac{x^3 - 2}{x}$.
2. Find and classify the relative extrema of $f(x) = \frac{x}{2} - \sin x$.
3. Graph, including all relative extrema and inflection points:
 $f(x) = 2x^3 - 6x + 4$.
4. Find the absolute maximum and minimum of $f(x) = x^4 + 4x$ (if they exist) on the interval $(-\infty, \infty)$.
5. Find the dimensions of the rectangle with perimeter 12 and maximum area.
6. Graph, including all relative extrema and inflection points: $f(x) = x^{\frac{2}{5}}$.