Practice worksheet | Differentiation and applications

Curve analysis

Name: _____ Date: _____

6 questions | 17 marks

1. Find all intercepts of $y = x^3 - 4x$. [2 marks]

2. State increasing intervals for $y = x^3 - 3x$. [2 marks]

3. For $y = x^4 - 2x^2$, find all stationary coordinates. [3 marks]

4. Find the vertical and oblique asymptotes of $y = x + \frac{1}{x}$. [2 marks]

5. Sketch $y = e^{-x}$ by stating its intercept, monotonicity, concavity and asymptote. [4 marks]

6. For $f(x) = x^3 - 3x$ on $[-2, 2]$, find the absolute maximum and minimum. [4 marks]