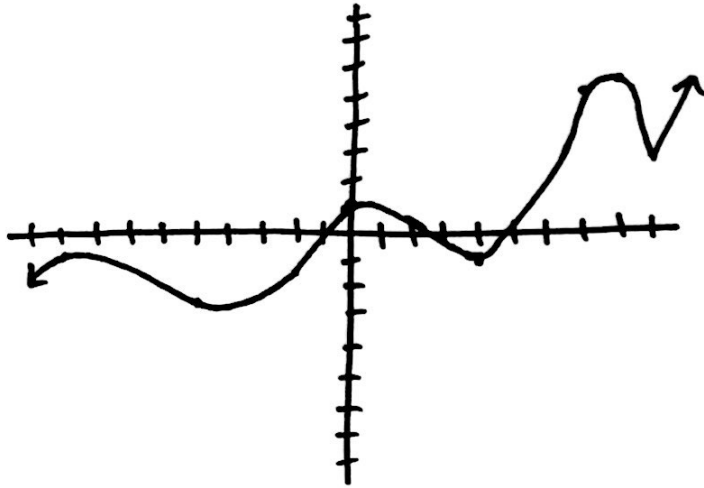


AP Calculus AB
Review for
Unit 3 Quiz 1

Name: _____

1) For the graph below, fill in the information.



Critical numbers: _____

Absolute max: _____

Absolute min: _____

Local max: _____

Local min: _____

Increasing: _____

Decreasing: _____

Find the x-values of the critical points.

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

3) $f(x) = -(4x+8)^{2/3}$

Find the absolute extrema on the given interval.

4) $f(x) = -x^3 + 8x^2 - 20x + 12, [2, 4]$

5) $f(x) = \tan(2x), (0, \frac{\pi}{6})$

If Rolle's Theorem applies, find the value of c that satisfies it.

$$6) f(x) = \frac{-x^2 - 2x + 15}{-x + 4}; [-5, 3]$$

$$7) f(x) = x^3 - x^2 - 4x + 3; [-2, 2]$$

If the MVT applies, find the values of c that satisfy it.

$$8) f(x) = \frac{x^2}{2x - 4}; [-4, 1]$$

$$9) f(x) = -(-2x + 6)^{1/2}; [-2, 3]$$

Use calculus to find where the function is increasing and decreasing AND its local extrema.

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

$$11) f(x) = \frac{-25x}{x^2 + 25}$$