

University of Bahrain
Department of Mathematics
MATHS101: Calculus I
Dr. Abdulla Eid



Worksheet: Concavity and curve Sketching

Students' Name: _____

1. Discuss the following curve with respect to concavity and inflection points.

$$f(x) = x^4 - 3x^3 + 3x^2 - 5$$

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2. Discuss the following curve with respect to concavity and inflection points.

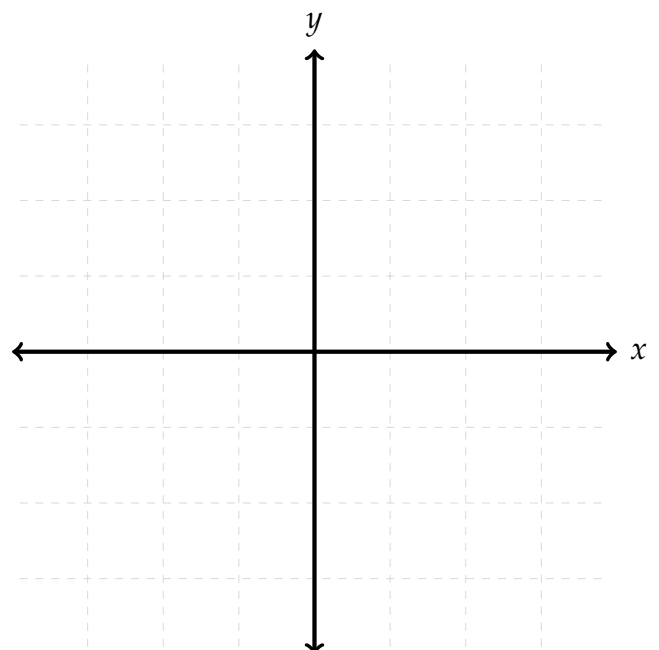
$$f(x) = 2 + \sin x, \quad x \in [0, 2\pi]$$

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3. (All in All) Find the intervals where the function is increasing/decreasing, concave upward, concave downward, find all local max/min, find inflection points and sketch the graph of the function.

$$f(x) = x^5 - 4x^4$$

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4. (At home!) Sketch the function

$$y = f(x) = \frac{4x}{x^2 - 1}$$

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