

Instructor: Dr. Rola Alseidi	Philadelphia University (P. U) Faculty/College of Science Department of Mathematics Quiz 2	Academic Year: 2022/2023. Semester: Second. Date: 27/3/2023. Course Title: Real Analysis (2) Duration of Quiz: 15 minutes.
<b>Name:</b>		

1. (4 points) Find the points of absolute extrema for

$$f(x) = x(x - 8)^{\frac{1}{3}}, \quad 0 \leq x \leq 9$$

2. (3 points) Find the value  $c$  that satisfies mean value theorem to the function

$$f(x) = x^{\frac{2}{3}}, \quad x \in [1, 8]$$

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3. (3 points) Show that

$$|\cos(x) - \cos(y)| \leq |x - y|, \quad \forall x, y \in \mathbb{R}$$