Math – Quiz 1 (10 marks)

Student's Name: _____

Grade 11th

مدارس البكالوريا
BACCALAUREATE SCHOOLS

10th September, 2025

Q1)

Determine if $f(x) = x^3 - x^2 + x - 1$ is even, odd, or neither. Justify your answer.

Q2) Find the Range of the following functions using interval notation:

$$y = \frac{1}{x^2}$$

$$y = \sqrt{x-8} + 2$$

Q3) Find the Domain of the following functions using interval notation:

$$y = \frac{2x}{x^2 - 2x - 3} \qquad y = \frac{x^2 + 4x + 6}{\sqrt{2x + 4}}$$

Q4)

Find any vertical and horizontal asymptotes for the graph of $y = \frac{2x^2 - 4x}{x^2 + 4}$

Math – Quiz 1 (10 marks)

Student's Name: _____

Grade 11th

مدارس البكالوريا
BACCALAUREATE SCHOOLS

10th September, 2025

Q5) Determine the intervals on which the following function increasing and/or the intervals on which it's decreasing.

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

Q6) Sketch a graph given the following key features **(Extra Credit)**

domain: (−3, 4]	range: (−3, 3]
increasing: (−3, −1)	decreasing: (−1, 4)
x-intercepts: (−2, 0), (2, 0)	*y*-intercept: (0, 2)
positive: (−2, 2)	negative: (−3, −2), (2, 4]