



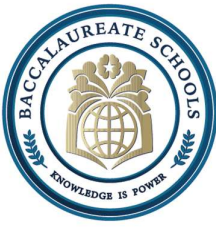
**Q1)**

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:**

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

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



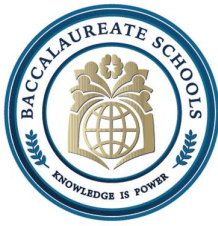
**Q3) Find the Domain of the following functions using interval notation:**

$$y = \frac{2x}{x^2 - 2x - 3}$$

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

**Q4)**

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



**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:  $(-3, -2), (2, 4]$

