

KING FAHD UNIVERSITY OF PETROLUUM AND MINERALS

Math 001 – Term 061

Quiz#6

Name:

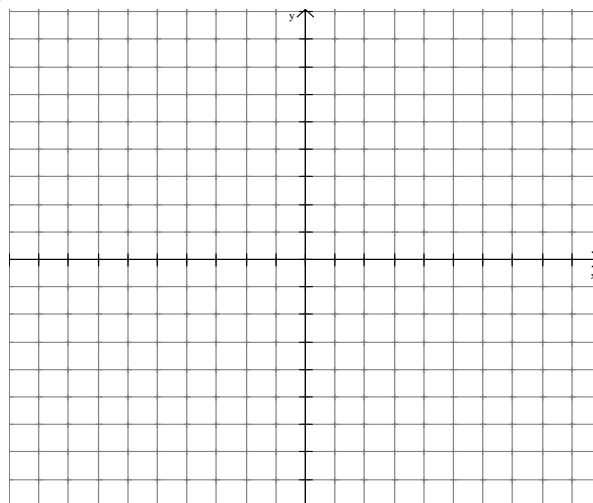
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Q1 (7 points): Given the function $f(x) = \begin{cases} 3 & x \leq -2 \\ x^2 & -2 < x \leq 3 \\ 2-x & 3 < x \leq 7 \end{cases}$

- i. Sketch the graph of $f(x)$
- ii. Use the graph to find:
 - a. The y - intercept(s).
 - b. The x - intercept(s).
 - c. The interval(s) where $f(x)$ is increasing.
 - d. The interval(s) where $f(x)$ is decreasing.
 - e. The interval(s) where $f(x)$ is constant.
 - f. The domain and the range of the function.
 Domain =
 Range =



Q2 (3 points): Let $g(x) = \lceil x \rceil$, where $\lceil \cdot \rceil$ is the greatest integer function. Find the value of

$$\frac{g(x-a) + g(a-x)}{g\left(\frac{x}{a}\right)}$$

Where $x = 1.5$ and $a = 0.6$