

NORTH SOUTH UNIVERSITY
Department of Mathematics and Physics
Course: Calculus and Analytical Geometry-I, Code: MAT 120–11
Spring 2022, Quiz # 01, Time: 20 minutes, Marks: 20
Uploaded Time: 05 minutes

Question1. Given,

$$f(x) = |x + 2| - 2$$

(a) Determine (i) $f(-3)$ (ii) $f(3)$ (iii) $f(0)$ (iv) $f(1)$

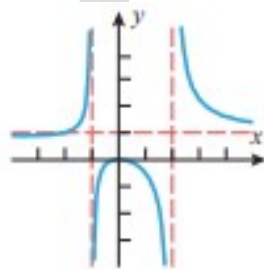
(b) Determine the domain and range of $f(x)$.

Question2. Sketch the graph of $y = x^2 - 6x + 7$ by using translation and then determine its domain and range.

Question3. Let $f(x) = \sqrt{x-1}$ and $g(x) = x^2$. Find

(i) $f(g(1))$ (ii) $g(f(2))$ (iii) $f(f(0))$ (iv) $g(g(4))$ (v) $g(h-2)$

Question4. Consider the following graph of a rational function:



Using the above graph to determine its (i) Domain, (ii) Range, (iii) Horizontal asymptote and (iv) Vertical asymptote.