

**Name:****Student ID:****Marks:** 15**Time:** 15 min

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1. Sketch the graph of the function  $f(x) = \begin{cases} 2, & \text{if } x \leq -2 \\ -\sqrt{4-x^2}, & \text{if } -2 < x < 2 \\ 2-x, & \text{if } x \geq 2 \end{cases}$

and write down the domain and range. Discuss the continuity of  $f(x)$  at  $x = -2$  and  $x = 2$ .