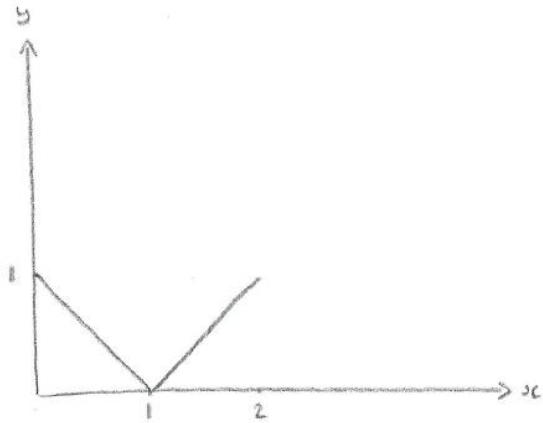


STEP/Curve Sketching Q1 (14/6/23)

Sketch the graph of $\sqrt{x^2 - 2x + 1}$ for $0 \leq x \leq 2$

Solution

$$\text{For } 0 \leq x \leq 1, \sqrt{x^2 - 2x + 1} = \sqrt{(x - 1)^2} = \sqrt{(1 - x)^2} = 1 - x$$

$$\text{For } 1 \leq x \leq 2, \sqrt{x^2 - 2x + 1} = \sqrt{(x - 1)^2} = x - 1$$