

Q4a) $|x-1| \geq 3$

~~$|x+1| \geq 3$~~

~~or $|x-1| \geq -3$~~

~~$|x| \geq 4$~~

~~$|x-1| \geq 2$~~

~~$x \geq 4$~~

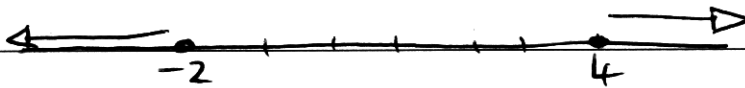
~~$x \leq -2$~~

~~$-x+1 \geq 3$~~ or $x-1 \geq 3$

~~$-x \geq 2$~~

$x \geq 4$

$x \leq -2$



b) $\cos \theta - \frac{2}{5} = 0$

c) $a^2 = b^2 + c^2 - 2bc \cos A$

$a^2 = 8 \cdot 9^2 + 5 \cdot 2^2 - 2 \times 8 \cdot 9 \times 5 \cdot 2 \times \cos 110^\circ$

$= 72 \cdot 21 + 27 \cdot 04 - 92 \cdot 56 \times \cos 110$

$= \sqrt{130 \cdot 9073845}$

$= 11.4 \text{ m}$

~~Area = $\frac{1}{2} ab \sin C$~~



$$\begin{aligned} \text{ii) } A &= \frac{1}{2} bc \sin A \\ &= \frac{1}{2} \times 8.9 \times 5.2 \times \sin 110^\circ \\ &= 21.7 \text{ m}^2 \end{aligned}$$

$$\text{d) } y = 2x \quad y = 6x - x^2$$

$$\begin{aligned} \text{i) } y &= 2x & y &= 12x \\ & & y &= 12x - x^2 \end{aligned}$$