



$$4 \text{ a), } |x-1| \geq 3$$

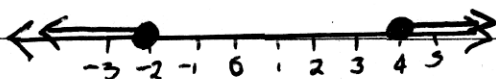
$$-x + 1 \geq 3$$

$$x - 1 \geq 3$$

$$-x \geq 2$$

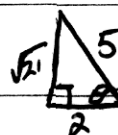
$$x \geq 4$$

$$x \leq -2$$



$$b) 0^\circ < \theta \leq 360^\circ \quad \cos \theta - \frac{3}{5} = 0$$

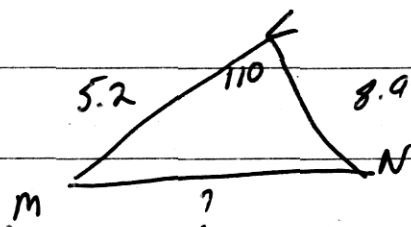
$$\cos \theta = \frac{3}{5}$$



~~$$\cos \theta = \frac{a^2 + b^2 - c^2}{2ab \cos C}$$~~

~~$$\frac{\sin 90}{5} = \frac{\sin \theta}{\sqrt{4}}$$~~

c)



~~$$c^2 = a^2 + b^2 - 2ab \cos C$$~~

~~$$c^2 = a^2 + b^2 - 2ab \cos C$$~~

$$c^2 = 5.2^2 + 8.9^2 - 2 \times 5.2 \times 8.9 \times \cos 110^\circ$$

$$MN = 13.02170316 \text{ m} \approx 13 \text{ m}$$

$$A = \frac{1}{2} ab \sin C$$

$$\frac{1}{2} \times 5.2 \times 8.9 \times \sin 110^\circ = 173.955938 \text{ m}^2$$

$$d) \quad y = 6x - x^2 \quad \text{--- (1)}$$

$$y = 2x \quad \text{--- (2)}$$

sub (2) in (1)

~~$$2x = 6x - x^2$$~~
$$2x = 6x - x^2$$

~~$$2x - 6x = -x^2$$~~

~~$$-4x = -x^2$$~~

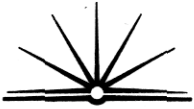
~~$$4 = x$$~~

$$x = 4$$

sub answer in (2)

$$y = 2(4)$$

$$y = 8 \text{ as required}$$



11) $y = 6x - x^2$, $y = 2x$ $y = 0$

~~A = 4~~