

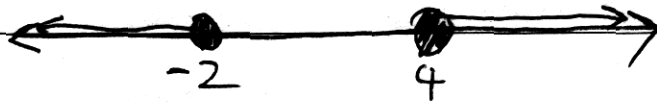


$$a) |x-1| \geq 3$$

$$x-1 \geq 3 \text{ or } x-1 \leq -3$$

$$\therefore x \geq 4 \text{ or } x \leq -2$$

∴



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

$$\cos \theta = \frac{2}{5}$$

$$\theta = 68^\circ \text{ or } 292^\circ$$

$$c) i) c^2 = a^2 + b^2$$
$$= 5 \cdot 2^2 + 8 \cdot 9^2$$
$$= 106.25$$

$$c = \sqrt{106.25}$$

$$= 10.30776406$$

$$= 10.3 \text{ (rounded)}$$

$$ii) \frac{1}{2} ab \sin C$$

$$\cancel{\frac{1}{2} \times 5 \times 8} = \frac{1}{2} \times 5 \cdot 2 \times 8 \cdot 9 \times \sin 110^\circ$$

=



d) ~~$y = 6x - x^2$
 $y' = 6 = 2x$~~

~~$y = 6x - x^2 = \textcircled{1}$
 $y = 2x = \textcircled{2}$~~

d) $y = 2x \textcircled{a}$ sub into equations
 $y = 6x - x^2 \textcircled{b}$ (4, 8).

~~8~~
 $8 = 2 \times 4 \textcircled{a}$
 $= 8$

$$\begin{aligned} 8 &= 6 \times 4 - 4^2 \\ &= 24 - 16 \\ &= 8 \end{aligned} \textcircled{b}$$