



Q2

a)  $y = \cancel{AB} \quad 2x + 3$

at  $x = 1$

$2(1) + 3$

$= 5$

m  $5 \quad (1, 5)$

$y - 5 = 5(x - 1)$

$y - 5 = 5x - 5$

$y = 5x$

b)  $m_{AB} =$

$(-2, 5) \quad (4, 3)$

$\frac{5-3}{-2-4} = \frac{2}{-6} = -\frac{1}{3}$

$(4, 3) \quad -\frac{1}{3}$

$y - 3 = -\frac{1}{3}(x - 4)$

$y - 3 = -\frac{x}{3} + \frac{4}{3}$

$y = -\frac{x}{3} + 4\frac{1}{3} \quad \rightarrow \frac{13}{3}$

$3y = -x + 13$

$x + 3y - 13 = 0$

ii)  $A(-2, 5) \quad B(4, \frac{13}{3})$

$\sqrt{(5-3)^2 + (-2-4)^2}$

cont...  
ii)  $\sqrt{4+36}$

$= \sqrt{40}$

$\sqrt{2 \cdot 2 \cdot 10}$   
 ~~$2 \cdot 2 \cdot 2 \cdot 2$~~   $= 2\sqrt{10}$

$\therefore AB = 2\sqrt{10}$



$$iii) \cdot (0,0) \quad x+3y-13$$

$$\frac{ax+by+c}{\sqrt{a^2+b^2}}$$

$$\frac{1 \cdot 0 + 3 \cdot 0 - 13}{\sqrt{1^2 + 3^2}}$$

$$\frac{0+0-13}{\sqrt{10}}$$

$$= \frac{0+0-13}{\sqrt{10}}$$

$$= \frac{-13}{\sqrt{10}}$$

$$= -4.110960958$$

$$iv) \cdot \frac{-13}{\sqrt{10}} \times 2\sqrt{10}$$

$$= -26 \text{ units}^2$$

$$v) \cdot A(0,0) \quad B(2,5)$$

$$C(4,3)$$

$$C = 4+2$$

$$3+3$$

$$(6, 6) \quad (4, 3) \quad (6, 6)$$

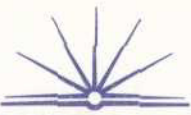
$$\frac{6-3}{6-4} = \frac{3}{2}$$

$$y-3 = \frac{3}{2}(x-4)$$

$$y-3 = \frac{3x-6}{2}$$

$$y = \frac{3x-6}{2} + 3$$

$$2y = 3x - 6 \quad \text{PTO}$$



$$\frac{2 \cdot 0 + 3 \cdot 0 - 6}{(2)^2}$$

$$2y = 5x - 6 \quad (0, 0)$$

$$3x - 2y = 6$$

$$\frac{3 \cdot 0 - 2 \cdot 0 - 6}{\sqrt{(3)^2 + (-2)^2}}$$

$$= \frac{-6}{\sqrt{13}}$$

$$\sqrt{13}$$