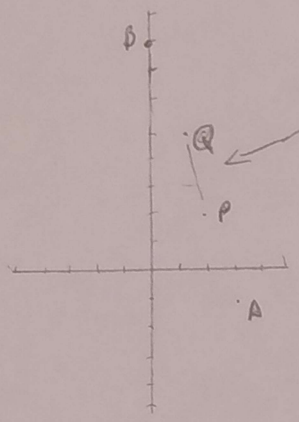
① A y B

P(2,2) y Q(1,5) $\sqrt{(1-2)^2+(5-2)^2}$ $\sqrt{1+9}$ $\sqrt{10}$



3.16228 A=(3,-1) B=(0,8)

∴ A=(3,-1) B=(0,8)

$2=\frac{x_1+1}{2}=7\ x_1=3$ $1=\frac{x_2+2}{2}\Rightarrow 0$

$2=\frac{y_1+5}{2}\ \therefore\ y_2=-1$ $5=\frac{y_1+2}{2}=7\ 8$

②

A(x,0) B(0,-6) C(2,4)

$\overline{AB}=\overline{AC}$ $\sqrt{(x-0)^2+(0+6)^2}=\sqrt{(x-2)^2+(0-(-6))^2}$

$x^2+36=x^2-4x+4+16$

$+4x=20-36$ ∴ $x=-4$

$x=-\frac{16}{4}$

$A=\frac{1}{2}\begin{matrix}0&-6\\2&4\\-4&0\\0&-6\end{matrix}$ $A=\frac{1}{2}(0+0+8-0+16+0)$ $A=\frac{1}{2}(32)$ $A=26u^2$

$\alpha=arctan\left(\frac{m_2-m_1}{1+m_2\cdot m_1}\right)$ $\alpha=arctan\left(\frac{5-(\frac{3}{2})}{1+(5\cdot\frac{-1}{2})}\right)$

$\alpha=arctan(-1)$

$\alpha=45°$

$m_1=A/B$

$m_2=D/C$

$m_1=\frac{0+6}{-4-0}$ $m_2=\frac{-6-4}{0-2}$

$m_1=-\frac{3}{2}$ $m_2=5$

∴ a) x=-4
b) A=26u²
c) α=45°

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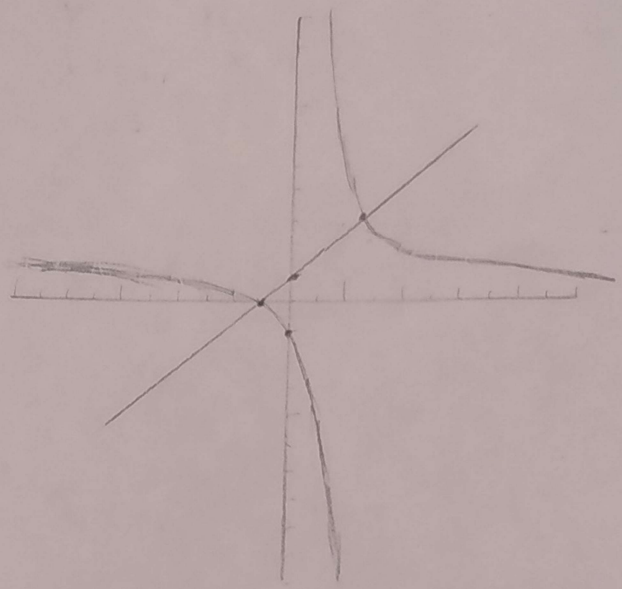
⑤

$x - y + 1 = 0 \quad xy - x - y = 1$

Intersección

$\boxed{(2,3) \text{ y } (-1, 0)}$



$x - y + 1 = 0 \rightarrow x = y + 1$

$xy - x - y = 1$

$(y+1)y - (y+1) - y = 0$

$y^2 + y - y - 1 - y = 1$

$y^2 - y - 1 = 1$

$y^2 - y - 2 = 0$

$(y-2)(y+1) = 0$

$y = 2 \quad y = -1$

$x = 2 + 1 \quad x = -1 + 0$

$x \in \mathbb{R} \quad x = 0$

④ $m_{AD} \frac{-1-3}{3-0} = \frac{-6}{3} = -2$

$P(x, y) \quad R(-2, 1)$

$y - y_1 = m(x - x_1)$

$y - 1 = -2(x - (-2))$

$y - 1 = -2x - 4$

$2x + y - 1 + 4 = 0$

$2x + y + 3 = 0$

$\boxed{-2x - y = 3}$

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