$$\begin{cases} x + y - 2 < 0 \\ y \geq \frac{1}{2}x \end{cases}$$

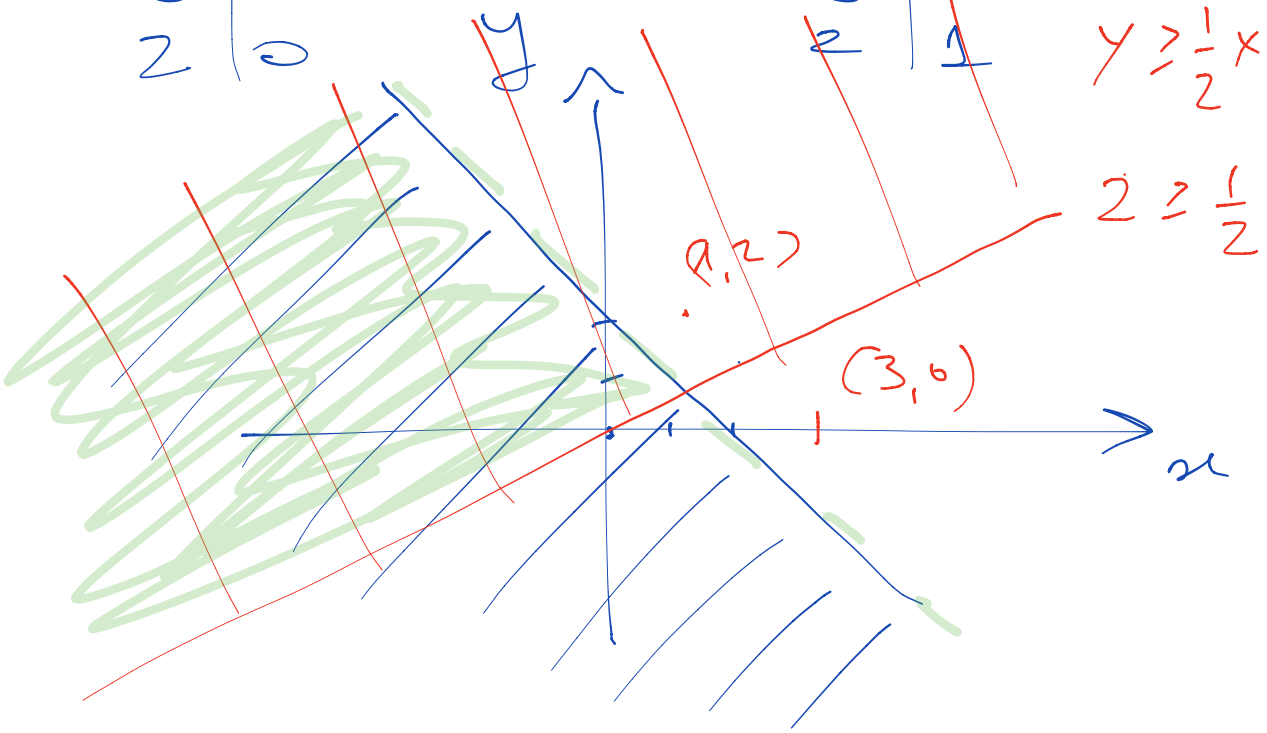
$$\begin{cases} y < -x + 2 \\ y \geq \frac{1}{2}x \end{cases}$$

$y = -x + 2$

x	y
0	2
2	0

$y = \frac{1}{2}x$

x	y
0	0
2	1



394 $A(1;2)$ $r: y = \frac{5}{12}x - 2$

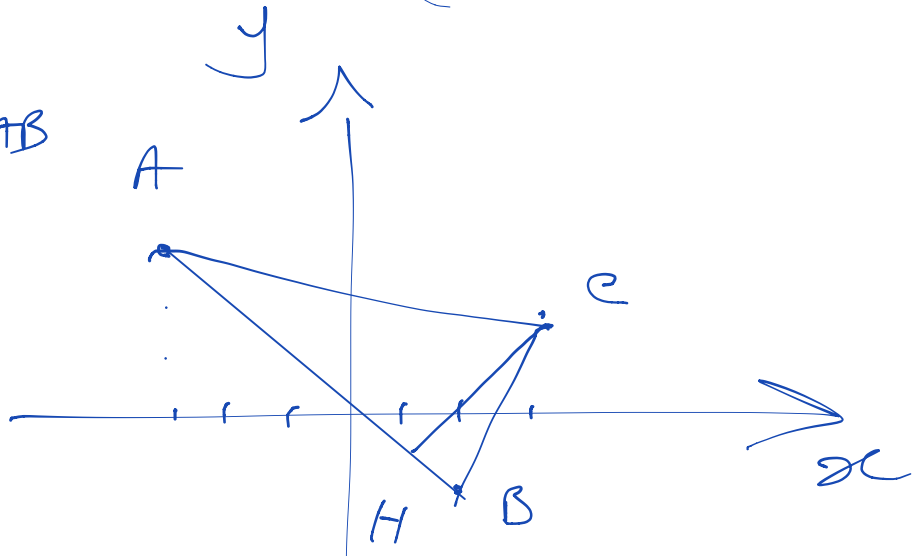
$12y = 5x - 24$, $5x - 12y - 24 = 0$

$$d(A;r) = \frac{|5(1) + (-12)(2) - 24|}{\sqrt{25 + 144}} =$$

$$= \frac{|5 - 24 - 24|}{\sqrt{169}} = \frac{43}{13}$$

$A(-3;3)\quad B(2;-1)\quad C(3;1)$

h_{AB}



$$\frac{y-y_A}{y_B-y_A}=\frac{x-x_A}{x_B-x_A}\;;\quad \frac{y-3}{-1-3}=\frac{x+3}{2+3}$$

$$\frac{y-3}{-4}=\frac{x+3}{5}\;;\quad 5y-15=-4x-12$$

$$4x+5y-3=0 \qquad C(3,1)$$

$$\overline{CH}=\frac{|4(3)+5(1)-3|}{\sqrt{16+25}}=\frac{14}{\sqrt{41}}=\frac{14\sqrt{41}}{41}$$

$$\overline{AB} = \sqrt{(2+3)^2 + (-1-3)^2} = \sqrt{25+16} = \sqrt{41}$$

$$A = \frac{1}{2}\,\overline{AB}\cdot\overline{CH} = \frac{1}{2}\cdot\sqrt{41}\cdot\frac{14}{\sqrt{41}} = 7$$

$A(5,1)$ $\quad$ $B(-3,2)$

$P(x,y)$ $\quad$ $\overline{PA}^2 = \overline{PB}^2$

$$(x-5)^2+(y-1)^2 = (x+3)^2+(y-2)^2$$

$$x^2-10x+25+y^2-2y+1 = x^2+6x+9+y^2-4y+4$$

$$-16x+2y+13 = 0$$

$M\left(1,\frac{3}{2}\right)$ $\quad$ $m_{AB} = \frac{2-1}{-3-5} = -\frac{1}{8}$

$$y-\frac{3}{2} = 8(x-1) \quad y = 8x-8+\frac{3}{2}$$

$$y = 8x-\frac{13}{2}$$

$$\begin{cases} (k-2)x + ky - 1 = 0 \\ 2x - ky + 2 = 0 \end{cases} \qquad (x, 0)$$

$$\begin{cases} (k-2)x + ky = 1 \\ 2x - ky = -2 \end{cases}$$

$$D = \begin{vmatrix} k-2 & k \\ 2 & -k \end{vmatrix} = -k^2 + 2k - 2k = -k^2$$

$$D_x = \begin{vmatrix} 1 & k \\ -2 & -k \end{vmatrix} = -k + 2k - k$$

$$D_y = \begin{vmatrix} k-2 & 1 \\ 2 & -2 \end{vmatrix} = -2k + 4 - 2 = -2k + 2$$

$$x = \frac{D_x}{D} = \frac{k}{-k^2} = -\frac{1}{k}$$

$$y = \frac{D_y}{D} = \frac{-2k+2}{-k^2} = \frac{2k-2}{k^2}$$

$$P\left(-\frac{1}{k}; \frac{2k-2}{k^2}\right)$$

$$\frac{2k-2}{k^2} = 0 \Rightarrow k = 1$$

$$2kx + y - k + 1 = 0$$

$$A(-2; -3)$$

$$2k(-2) + (-3) - k + 1 = 0$$

$$-4k - 3 - k + 1 = 0$$

$$-5k - 2 \Rightarrow k = -\frac{2}{5}$$