

Escribim les equacions de la recta que passa per B(3,1) i vector director $v(-3,2)$

vectorial $(x,y) = (3,1) + \lambda(-3,2)$

paramètriques $\left. \begin{aligned} x &= 3 - 3\lambda \\ y &= 1 + 2\lambda \end{aligned} \right\}$

contínua $\frac{x-3}{-3} = \frac{y-1}{2}$

general $2x + 3y - 9 = 0$

explícita $y = -\frac{2}{3}x + 3$

(27) a) $d(A,r) = ?$ A(-3,2)

r: $\left. \begin{aligned} x &= -t \\ y &= 2t \end{aligned} \right\} \begin{aligned} t &= -x \\ t &= \frac{y}{2} \end{aligned}$

Apliquem la fórmula:

$$d(A,r) = \frac{|-3 \cdot 2 + 2 \cdot 1 + 0|}{\sqrt{2^2 + 1^2}} = \frac{|-6 + 2 + 0|}{\sqrt{4 + 1}} = \frac{|-4|}{\sqrt{5}} = \frac{4}{\sqrt{5}} \text{ u.}$$

Igualem les t:

$$\begin{aligned} -x &= \frac{y}{2} \\ +2x + y &= 0 \end{aligned}$$

(eq general)

Si r: $AX + BY + C = 0$
 $P(P_1, P_2)$
$$d(P,r) = \frac{|P_1A + P_2B + C|}{\sqrt{A^2 + B^2}}$$

b) r: $y = -2$ A(-3,2)

Equació general:

$y + 2 = 0$

Fórmula: $d(A,r) = \frac{|0 \cdot (-3) + 1 \cdot 2 + 2|}{\sqrt{0^2 + 1^2}} = \frac{|0 + 2 + 2|}{\sqrt{1}} = 4 \text{ u.}$

Gràficament

