

Dê o coeficiente angular de uma reta:

↳ m

1. Paralela ao eixo x .

$$m = \operatorname{tg} \alpha \Rightarrow \alpha = 0^\circ$$

$$m = \operatorname{tg} 0^\circ$$

$$m = 0$$

$$m = 0$$

2. De inclinação $\alpha = 60^\circ$.

$$m = \operatorname{tg} \alpha$$

$$m = \operatorname{tg} 60^\circ$$

$$m = \sqrt{3}$$

$$m = \sqrt{3}$$

3. De inclinação $\alpha = 120^\circ$.

$$m = \operatorname{tg} \alpha$$

$$m = \operatorname{tg} 120^\circ = -\operatorname{tg} 60^\circ$$

$$m = -\sqrt{3}$$

$$m = -\sqrt{3}$$

4. Paralela ao eixo y .

$$m = \operatorname{tg} \alpha \Rightarrow \alpha = 90^\circ$$

$$m = \operatorname{tg} 90^\circ$$

$$m = \cancel{\text{def}}$$

$$\cancel{m}$$

Calcule o coeficiente angular da reta que passa pelos pontos:

$$m = \operatorname{tg} \alpha = \frac{y_B - y_A}{x_B - x_A}$$

5. (1, 2) e (3, 10).

↳ (x_A, y_A) e (x_B, y_B)

$$m = \frac{10 - 2}{3 - 1} = \frac{8}{2} = 4$$

$$m = 4$$

6. (-1, 3) e (4, -2).

↳ (x_A, y_A) e (x_B, y_B)

$$m = \frac{-2 - 3}{4 - (-1)} = \frac{-5}{5} = -1$$

$$m = -1$$

Calcule o coeficiente angular de cada reta:

$$y = m \cdot x + n$$

Vamos isolar o y → Equação reduzida da reta

7. $2x + 4y + 7 = 0$

$$4y = -2x - 7$$

$$y = \frac{-2x - 7}{4}$$

$$y = \underbrace{-\frac{2}{4}x}_{m} - \frac{7}{4}$$

$$m = -\frac{2}{4} = -\frac{1}{2}$$

$$m = -1/2$$

8. $3x - 9y - 1 = 0$

$$9y = 3x - 1$$

$$y = \frac{3x - 1}{9}$$

$$y = \underbrace{\frac{3}{9}x}_{m} - \frac{1}{9}$$

$$m = \frac{3}{9} = \frac{1}{3}$$

$$m = 1/3$$

9. $x - y + 2 = 0$

$$y = \underbrace{x}_{m} + 2$$

$$m = 1$$

$$m = 1$$

10. $\frac{x}{2} + \frac{y}{3} = 1$

$$\frac{3x + 2y}{6} = 1$$

$$3x + 2y = 6$$

$$2y = -3x + 6$$

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

$$y = \underbrace{-\frac{3}{2}x}_{m} + 3$$

$$m = -\frac{3}{2}$$

$$m = -3/2$$

Calcule o coeficiente angular e dê a medida do ângulo de inclinação da reta:

↳ m

$$m = \frac{y_B - y_A}{x_B - x_A} \Rightarrow \operatorname{tg} \alpha \Rightarrow \alpha = \operatorname{tg}^{-1}(m)$$

11. r , da equação $3x - \sqrt{3}y + \sqrt{3} = 0$.

Isolando y :

$$\sqrt{3} \cdot y = 3x + \sqrt{3}$$

$$y = \frac{3x + \sqrt{3}}{\sqrt{3}}$$

$$y = \underbrace{\frac{3}{\sqrt{3}}x}_{m} + 1$$

$$m = \frac{3}{\sqrt{3}} \cdot \frac{\sqrt{3}}{\sqrt{3}} = \frac{3\sqrt{3}}{3} = \sqrt{3}$$

$$\alpha = \operatorname{tg}^{-1}(\sqrt{3}) = 60^\circ$$

$$m = \sqrt{3}, \alpha = 60^\circ$$

12. s , que passa por (5, -3) e (-1, 3).

↳ (x_A, y_A) e (x_B, y_B)

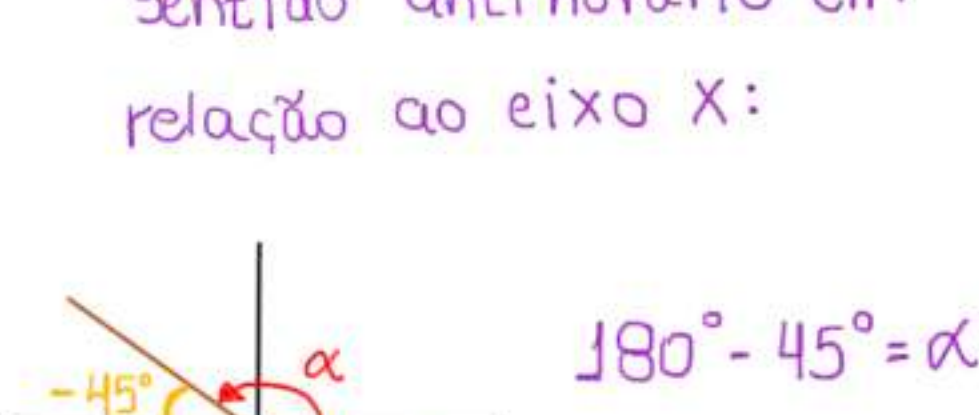
$$m = \frac{3 - (-3)}{-1 - 5} = \frac{6}{-6} = -1$$

$$\alpha = \operatorname{tg}^{-1}(-1) = -45^\circ$$

$$180^\circ - 45^\circ = \alpha$$

$$\alpha = 135^\circ$$

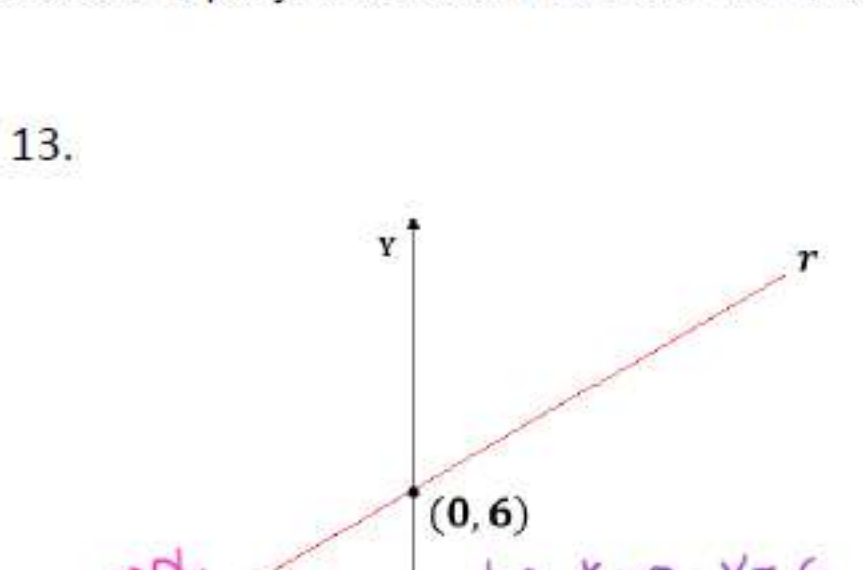
* Lembre que α é dado no sentido anti-horário em relação ao eixo x :



$$m = -1, \alpha = 135^\circ$$

Escreva a equação reduzida da reta r em cada caso:

13.



$$m = \operatorname{tg}(30^\circ) = \frac{\sqrt{3}}{3}$$

$$y = \frac{\sqrt{3}}{3}x + n$$

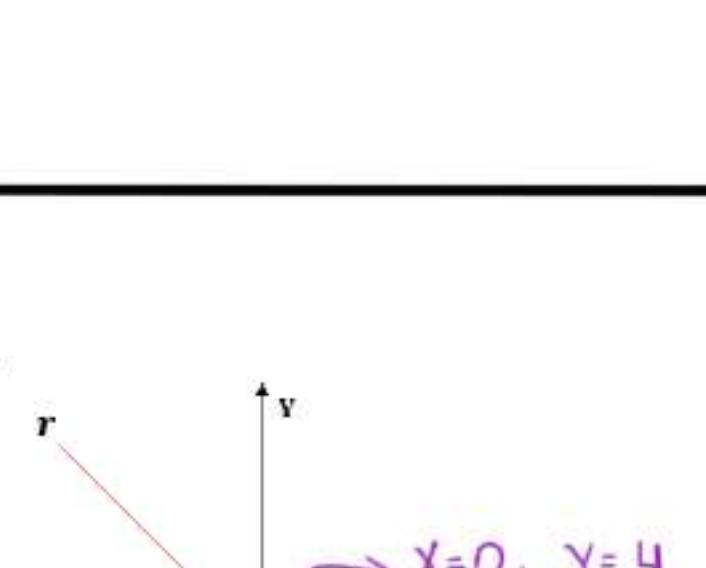
$$6 = \frac{\sqrt{3}}{3} \cdot 0 + n$$

$$n = 6$$

$$y = \frac{\sqrt{3}}{3}x + 6$$

$$y = \frac{\sqrt{3}}{3}x + 6$$

14.



$$m = \operatorname{tg}(135^\circ)$$

$$m = -\operatorname{tg}(45^\circ) = -1$$

$$y = -x + n$$

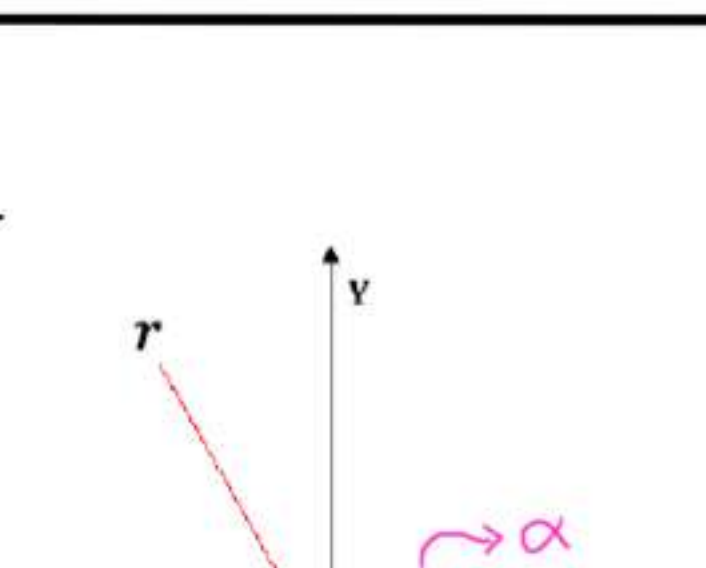
$$4 = -0 + n$$

$$n = 4$$

$$y = -x + 4$$

$$y = -x + 4$$

15.



$$m = \operatorname{tg}(120^\circ)$$

$$m = -\operatorname{tg}(60^\circ) = -\sqrt{3}$$

$$y = -\sqrt{3}x + n$$

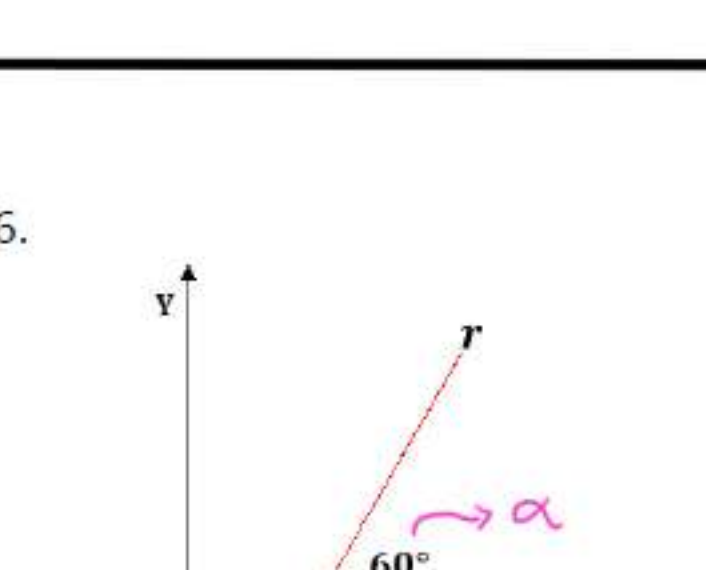
$$0 = -\sqrt{3} \cdot 0 + n$$

$$n = 0$$

$$y = -\sqrt{3} \cdot x$$

$$y = -\sqrt{3}x$$

16.



$$m = \operatorname{tg}(60^\circ) = \sqrt{3}$$

$$y = \sqrt{3}x + n$$

$$-3 = \sqrt{3} \cdot 0 + n$$

$$n = -3$$

$$y = \sqrt{3}x - 3$$

$$y = \sqrt{3}x - 3$$