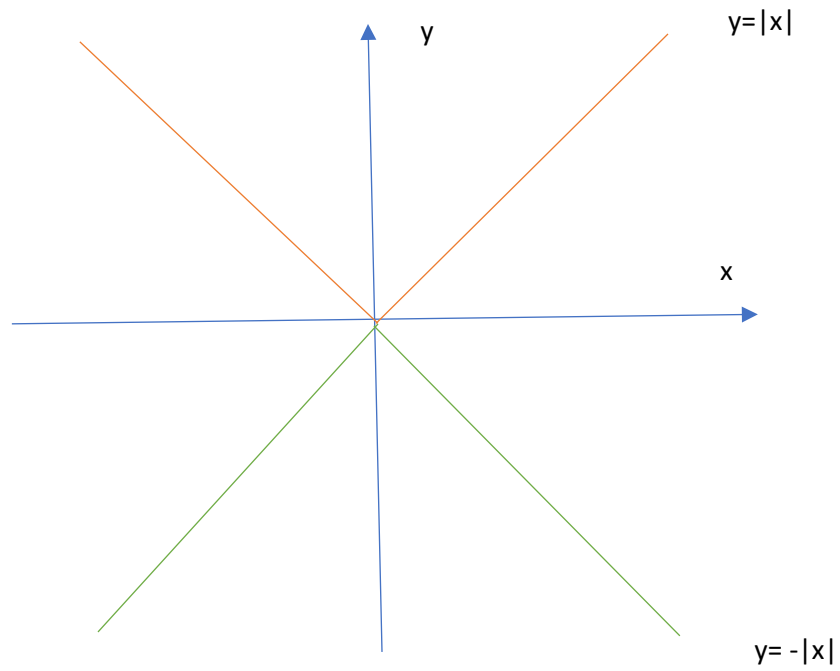


Solutions

Task 1.



Task 2.

$x+y+2=0$	$(2, -2)$
$y=-x-2$	$-2 = 2+n$
$k_1=-1$	$n = -4$
$k_2=1$	$y=x-4$

$$y=-x-2$$

$$y=x-4$$

$$2y=-6$$

$$y=-3$$

$$-3=-x-2$$

$$-1=-x$$

$$x=1$$

$$(1, -3)$$

Task 3.

$$\begin{cases} 3x - 2y = 6 \\ ax + y = 2 \end{cases} \quad \begin{cases} 3x - 2y = 6 \\ y = 2 - ax \end{cases}$$

$$3x - 2(2 - ax) = 6$$

$$3x - 4 + 2ax = 6$$

$$3x + 2ax = 10$$

$$x(3 + 2a) = 10$$

$$a \neq -\frac{3}{2}$$

Task 4.

$$A(2, 1) \quad h = \frac{2P}{|AC|}$$

$$B(-2, -2)$$

$$C(-8, 6)$$

$$P = \frac{1}{2} |x_1(y_2 - y_3) + x_2(y_3 - y_1) + x_3(y_1 - y_2)|$$

$$P = \frac{1}{2} |2(-2 - 6) - 2(6 - 1) - 8(1 + 2)|$$

$$P = \frac{1}{2} |-16 - 10 - 24|$$

$$P = \frac{1}{2} |-50|$$

$$P = 25$$

$$|AC| = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$$

$$|AC| = \sqrt{(-8 - 2)^2 + (6 - 1)^2}$$

$$|AC| = \sqrt{125}$$

$$h = \frac{50}{\sqrt{125}} = \frac{50}{5\sqrt{5}} = \frac{10}{\sqrt{5}} * \frac{\sqrt{5}}{\sqrt{5}} = 2\sqrt{5}$$

Task 5.

$$3x-4y-8=0$$

$$-4y=-3x+8$$

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

$$4x+3y-15=0$$

$$3y=-4x+15$$

$$y=-\frac{4}{3}x + 5$$

$k_1 \cdot k_2 = -1 \rightarrow$ They are perpendicular

$$k_1 = \frac{3}{4}$$

$$k_2 = -\frac{4}{3}$$

Task 6.

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

$$k_1 = \frac{1}{3}$$

$$k_2 = -3$$

(1,5)

$$y = kx + n$$

$$5 = -3 \cdot 1 + n$$

$$n = 8$$

$$y = -3x + 8$$

$$y = \frac{1}{3}x - 2 \quad / \cdot 9$$

$$y = -3x + 8$$

$$9y = 3x - 18$$

$$y = -3x + 8$$

$$10y = -10$$

$$y = -1$$

$$-1 = -3x + 8$$

$$-9 = -3x$$

$$x = 3$$

$$(3, -1)$$

Task 7.

$$y=(k-5)x+k-3$$

$$y=(2k+3)x-(3k+2)$$

$$k_1=k_2 \wedge n_1 \neq n_2$$

$$k-5=2k+3$$

$$-k=8$$

$$k=-8$$