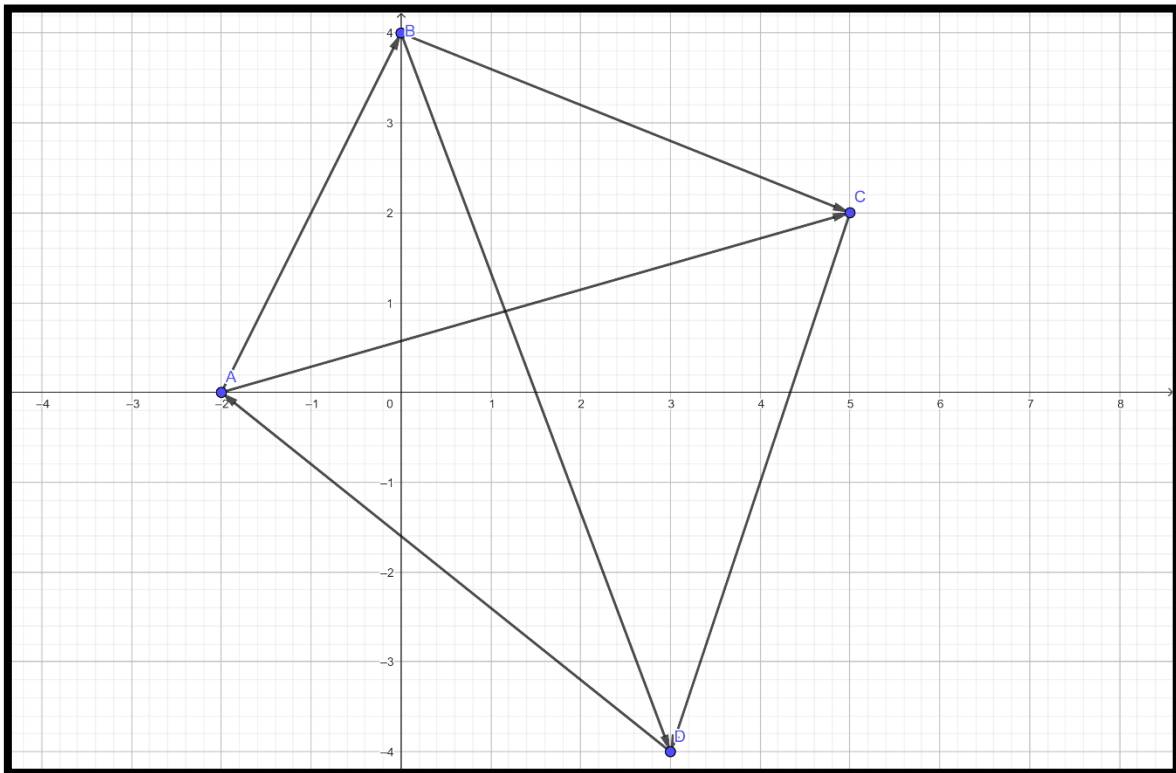


SOLUCIONES

GEOMETRÍA ANALÍTICA EN EL PLANO I

II - 9 - 1 - Ejercicio 1

$\overrightarrow{AB} (2, 4)$	$\overrightarrow{DA} (-5, 4)$
$\overrightarrow{BC} (5, -2)$	$\overrightarrow{AC} (7, 2)$
$\overrightarrow{CD} (-2, -6)$	$\overrightarrow{BD} (3, -8)$

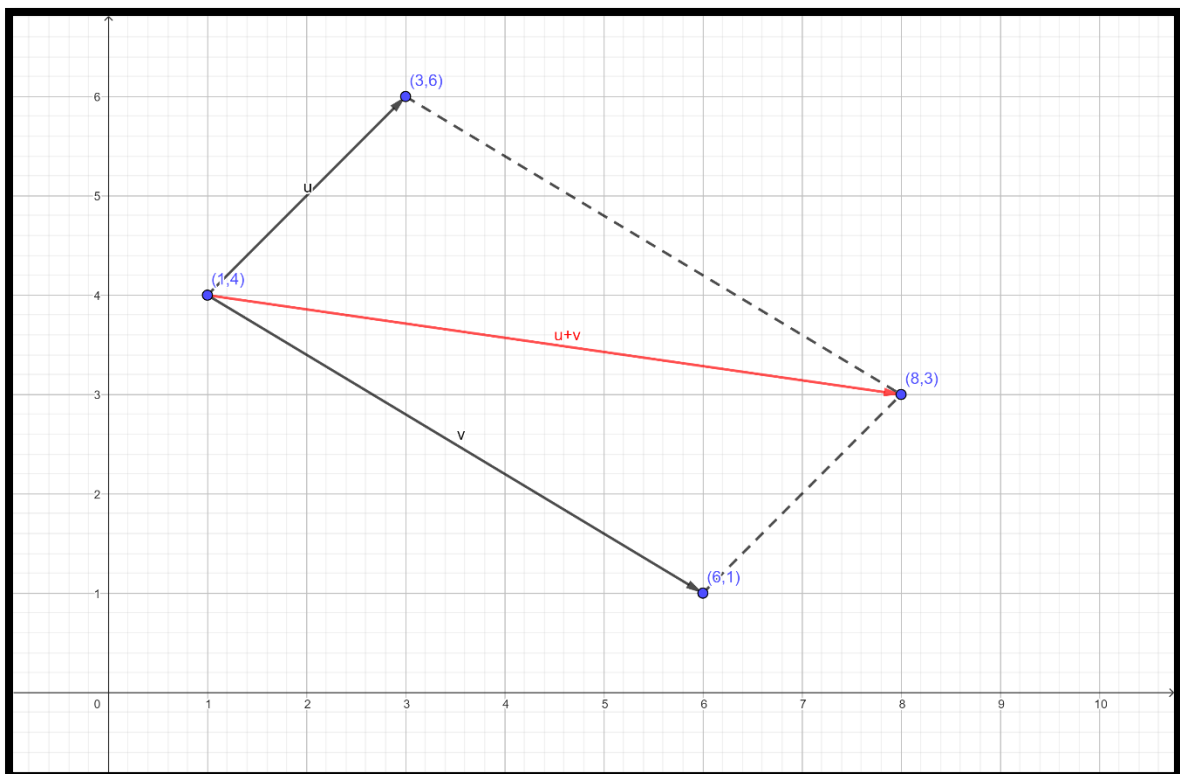


II - 9 - 2 Ejercicio 2

$\overrightarrow{AB} (2, 4)$	$\overrightarrow{DA} (-5, 4)$
$\overrightarrow{BC} (5, -2)$	$\overrightarrow{AC} (7, 2)$
$\overrightarrow{CD} (-2, -6)$	$\overrightarrow{BD} (3, -8)$

II - 9 - 3 -Ejercicio 3

$$\vec{u} + \vec{v} \rightarrow (7, -1)$$

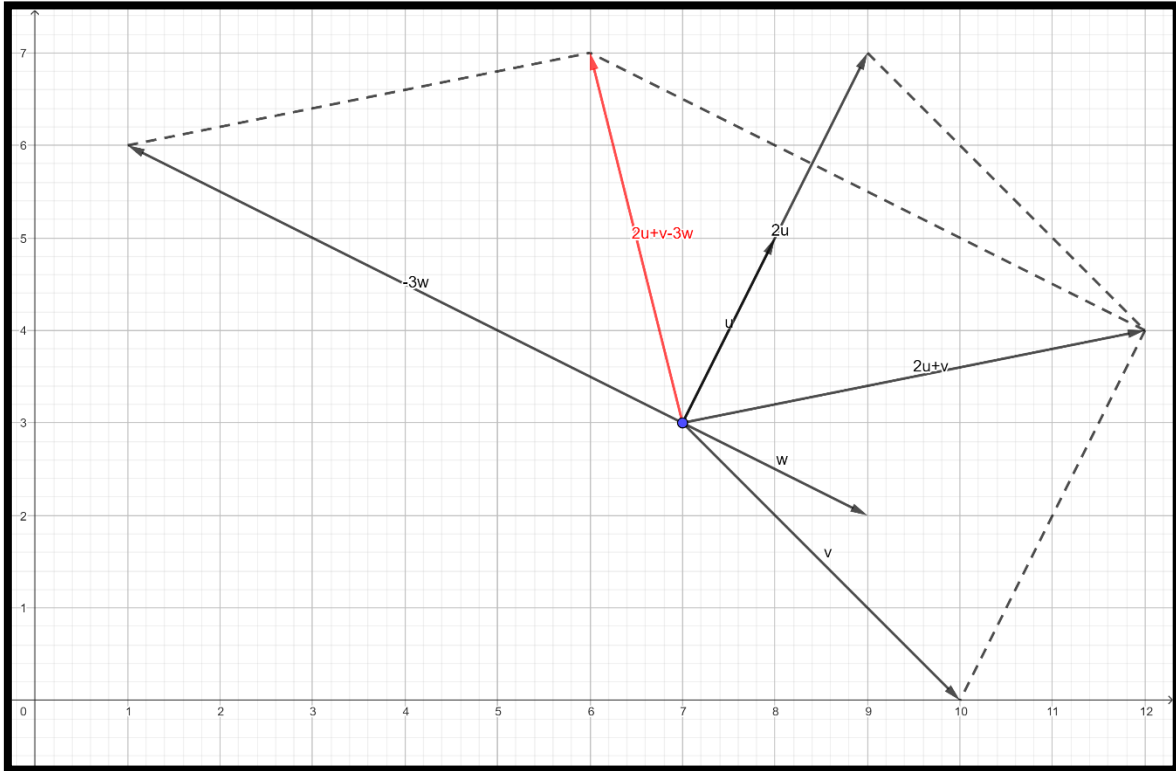


II - 9 - 6 - Ejercicio 4

$$B (0, -1)$$

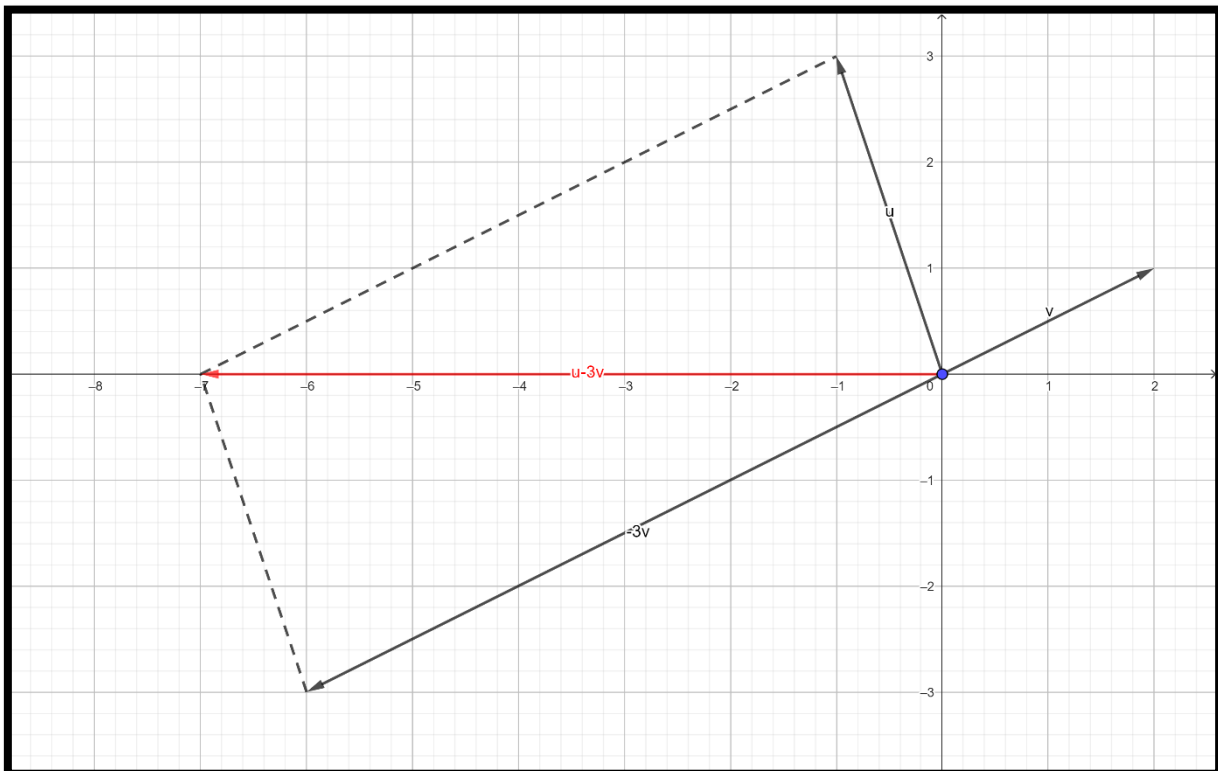
II - 9 - 13 - Ejercicio 5

$$2\vec{u} + \vec{v} - 3\vec{w} \rightarrow (-2, 4)$$



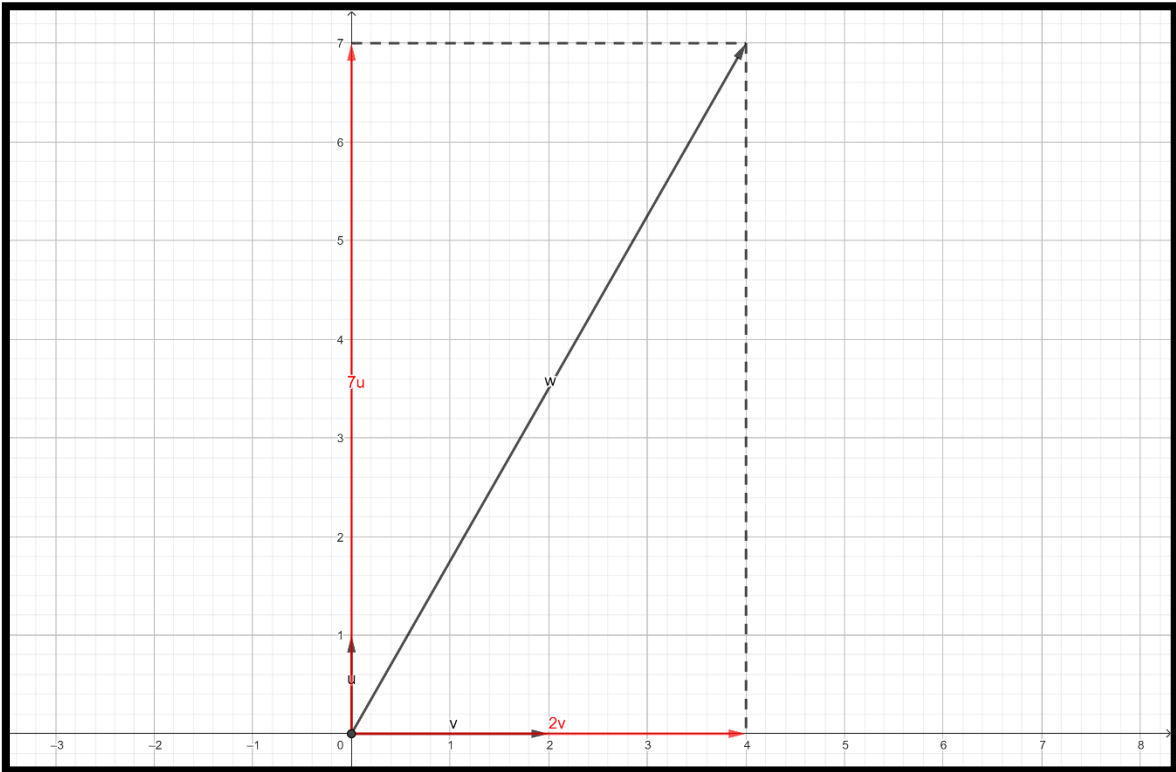
II - 9 - 14 - Ejercicio 6

$$\vec{u} - 3\vec{v} \rightarrow (-7, 0)$$



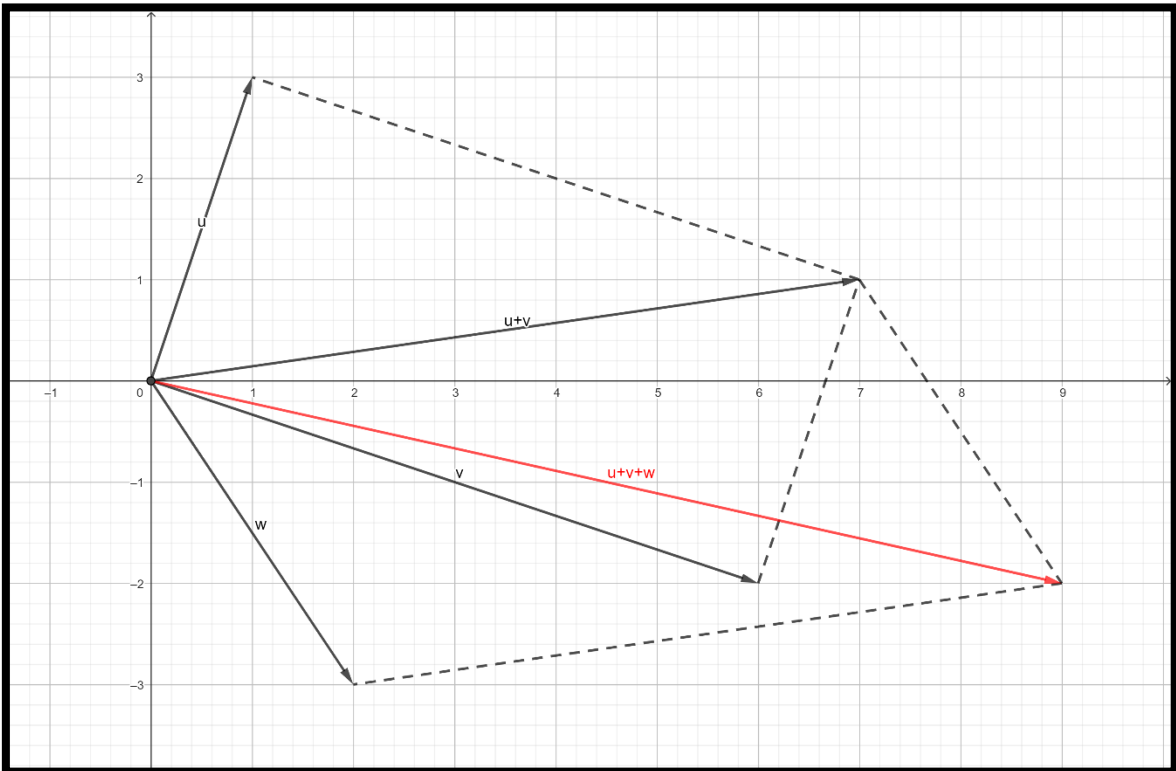
II - 9 - 15 - Ejercicio 7

$$\vec{w} = 7\vec{u} + 2\vec{v}$$



II - 9 - 16 - Ejercicio 8

$$\vec{u} + \vec{v} + \vec{w} \rightarrow (9, -2)$$

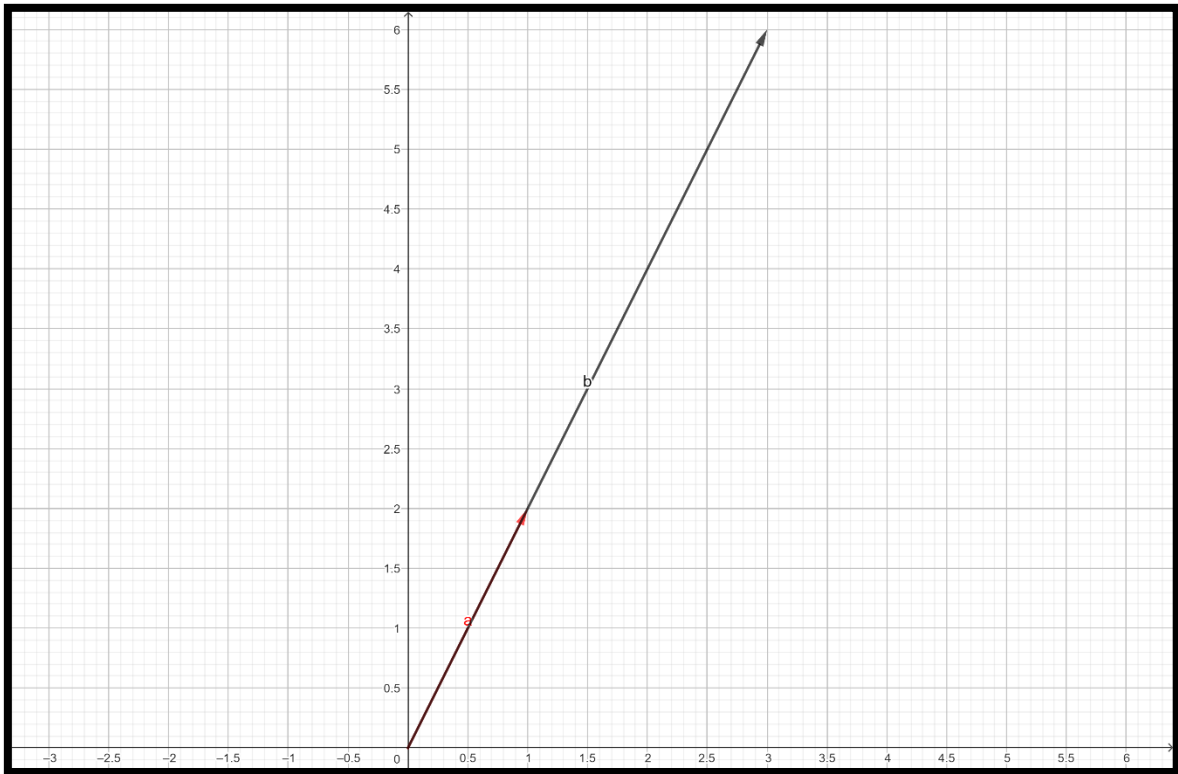


II - 9 - 7 - Ejercicio 9

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

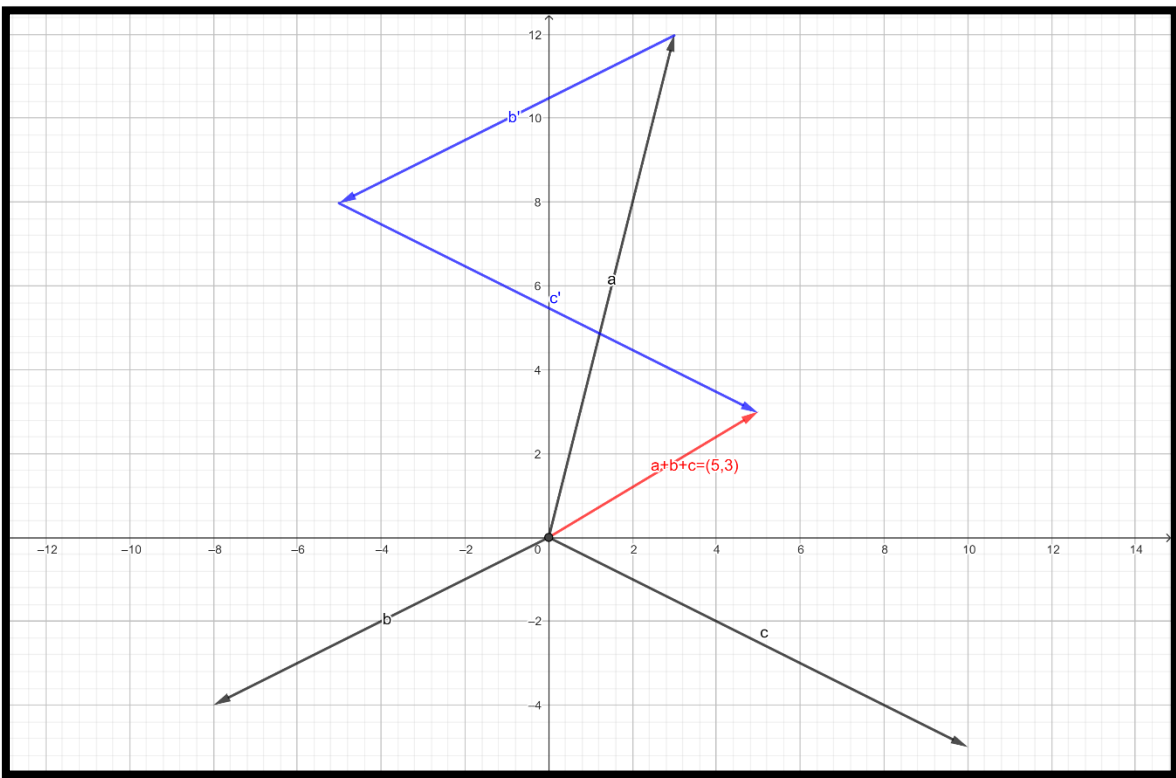
II - 9 - 21 - Ejercicio 10

$4 = 6 \rightarrow$ Estupidez Matemática, los vectores en cuestión son **Linealmente Dependientes**, luego no es posible la combinación lineal.



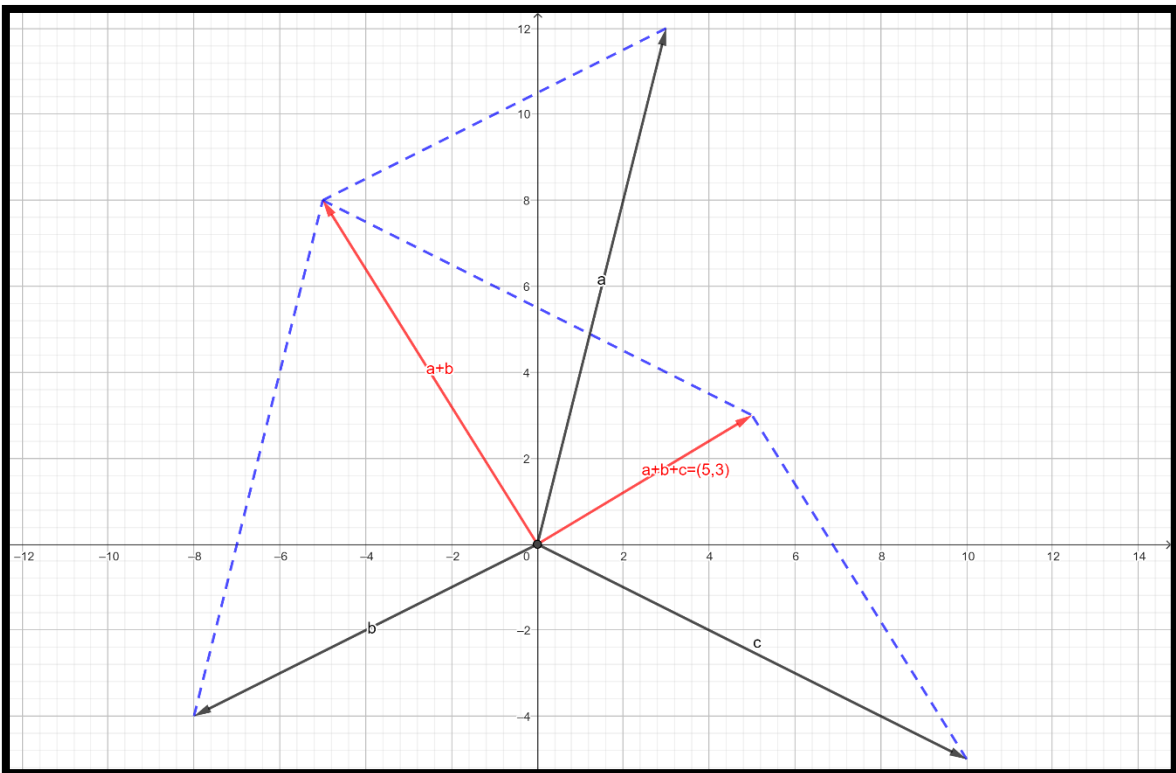
II - 9 - 22 - Ejercicio 11

$$a + b + c = (5, 3)$$



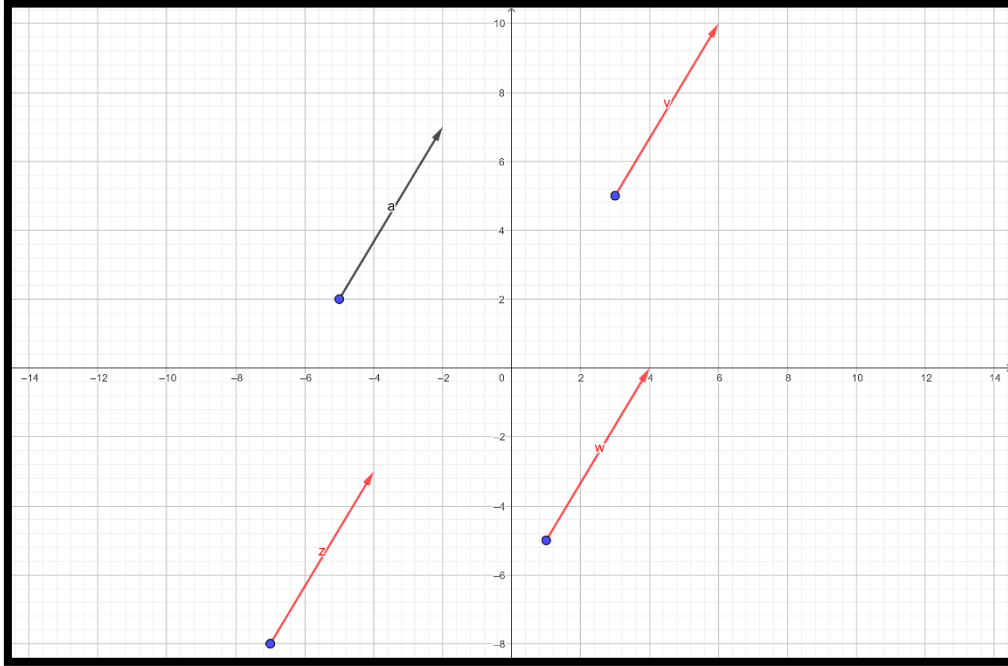
II - 9 - 23 - Ejercicio 12

$$a + b + c = (5, 3)$$

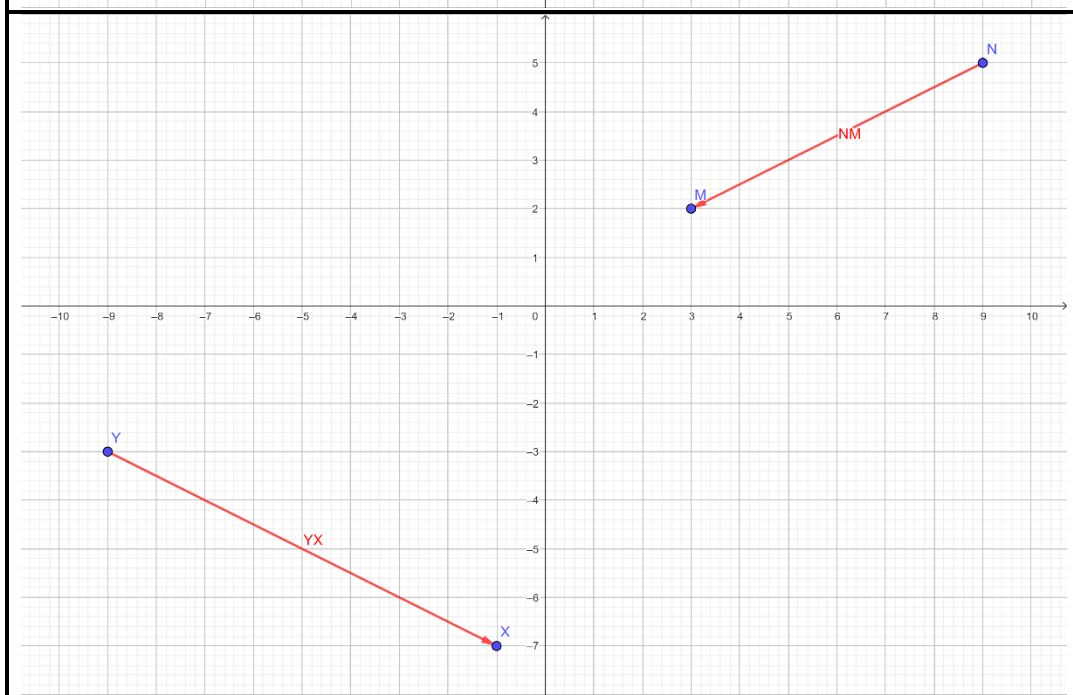
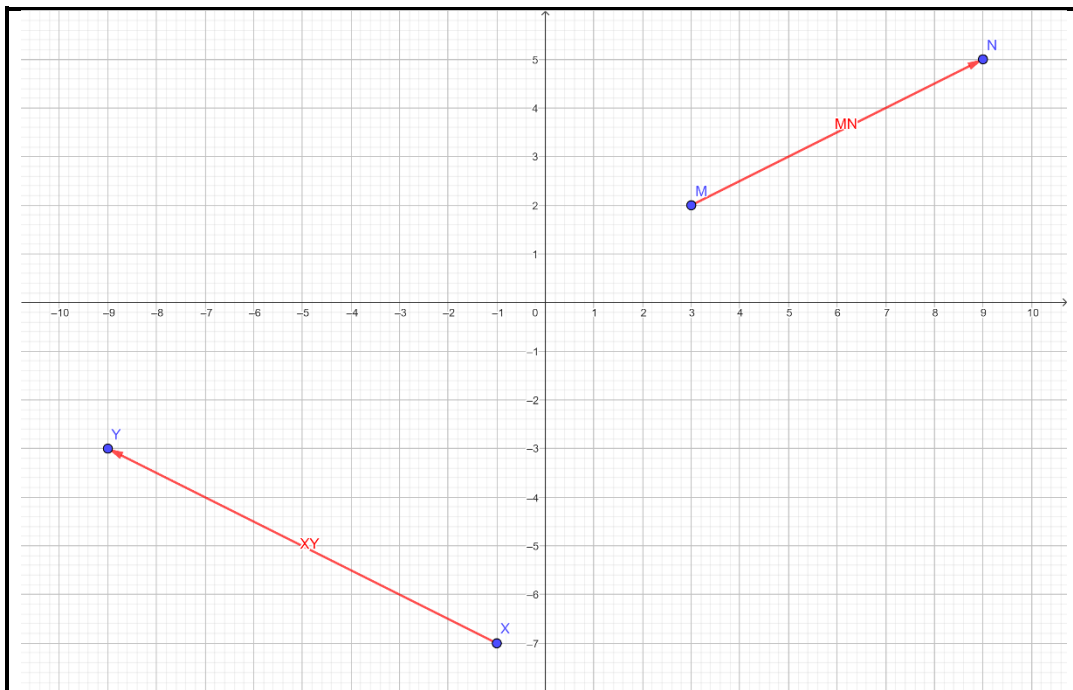


II - 9 - 24 - Ejercicio 13

\vec{v}	A (3, 5)	B (6, 10)
\vec{w}	A (1, -5)	B (4, 0)
\vec{z}	A (-7, -8)	B (-4, -3)

**II - 9 - 25 - Ejercicio 14**

\vec{a}	\overrightarrow{MN}	(6, 3)
\vec{b}	\overrightarrow{NM}	(-6, -3)
\vec{c}	\overrightarrow{XY}	(-8, 4)
\vec{d}	\overrightarrow{YX}	(8, -4)



II - 9 - 10 - Ejercicio 15

$x = -2$	$y = -1$
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II - 9 - 27 - Ejercicio 16

$$M = (x, y)$$

$$M = \left(\frac{a_1 + b_1}{2}, \frac{a_2 + b_2}{2} \right)$$

$$2 \cdot \overrightarrow{AM} = \overrightarrow{AB}$$

$$2 \cdot (x - a_1, y - a_2) = (b_1 - a_1, b_2 - a_2)$$

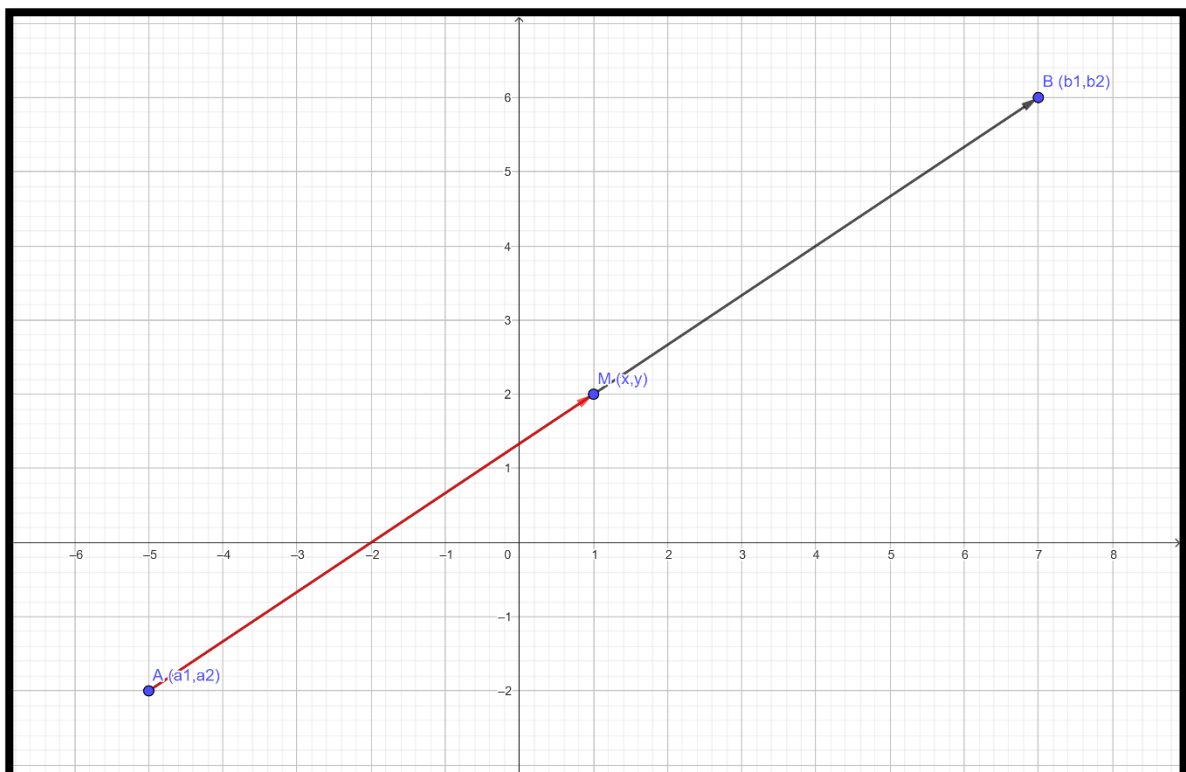
$$(2x - 2a_1, 2y - 2a_2) = (b_1 - a_1, b_2 - a_2)$$

$$2x - 2a_1 = b_1 - a_1 \rightarrow 2x = b_1 - a_1 + 2a_1$$

$$x = \frac{a_1 + b_1}{2}$$

$$2y - 2a_2 = b_2 - a_2 \rightarrow 2y = b_2 - a_2 + 2a_2$$

$$y = \frac{a_2 + b_2}{2}$$



II - 9 - 29 - Ejercicio 17

$$2 \cdot \overrightarrow{AM} = \overrightarrow{AB}$$

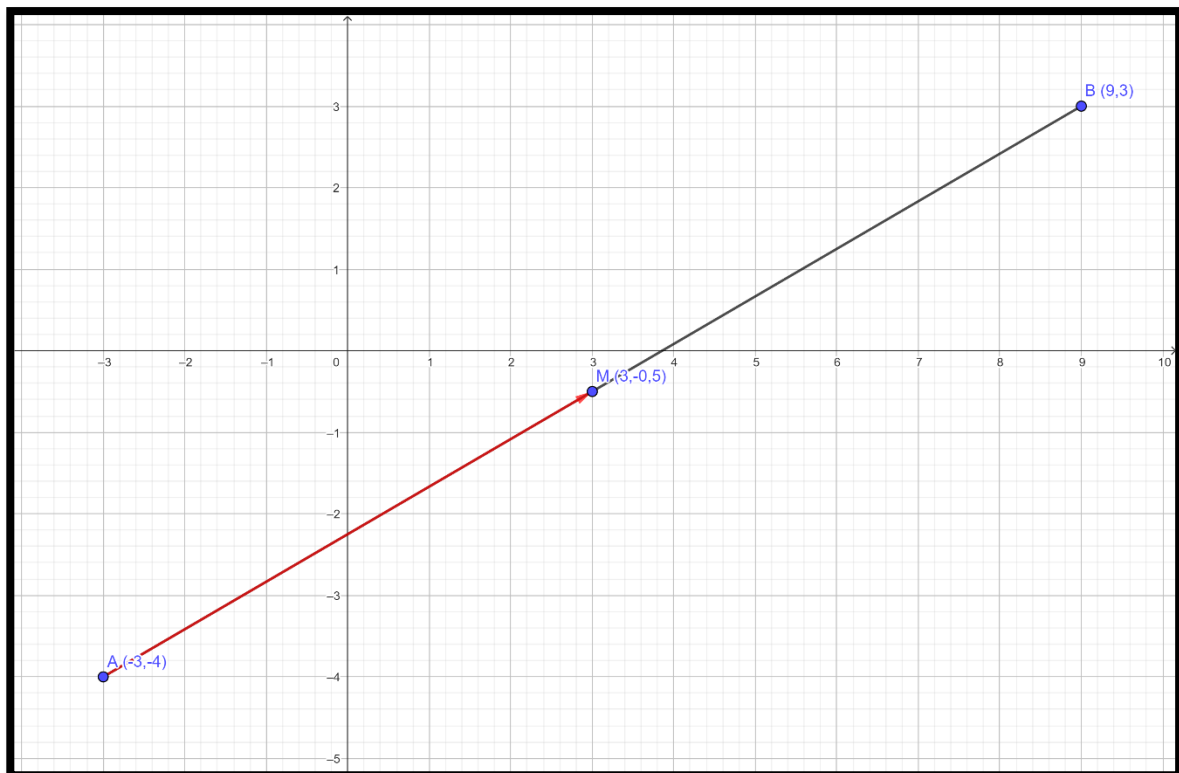
$$2 \cdot (x+3, y+4) = (12, 7)$$

$$(2x+6, 2y+8) = (12, 7)$$

$$2x+6=12 \rightarrow x=3$$

$$2y+8=7 \rightarrow y = -\frac{1}{2} \rightarrow -0,5$$

$$M(3, -0,5)$$

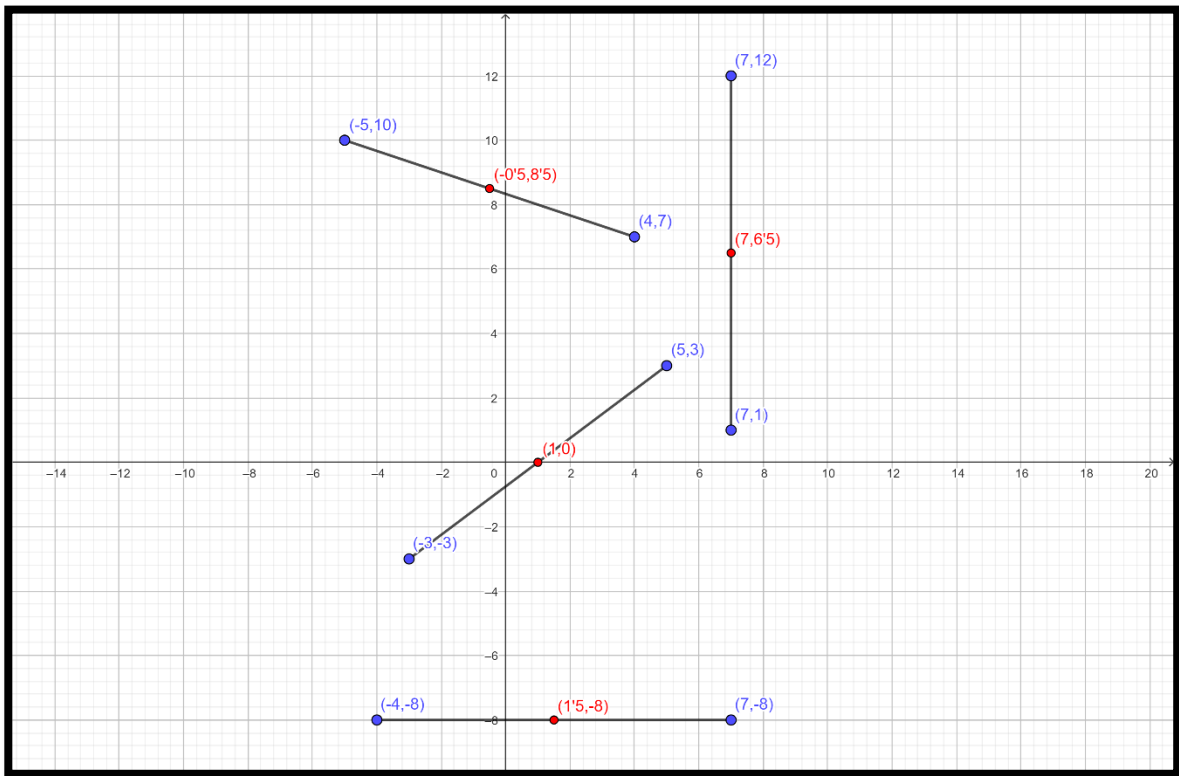
**II - 9 - 28 - Ejercicio 18**

$$\overline{A} \left(-\frac{1}{2}, \frac{17}{2} \right) \rightarrow (-0'5, 8'5)$$

$$\overline{B} \left(7, \frac{13}{2} \right) \rightarrow (7, 6'5)$$

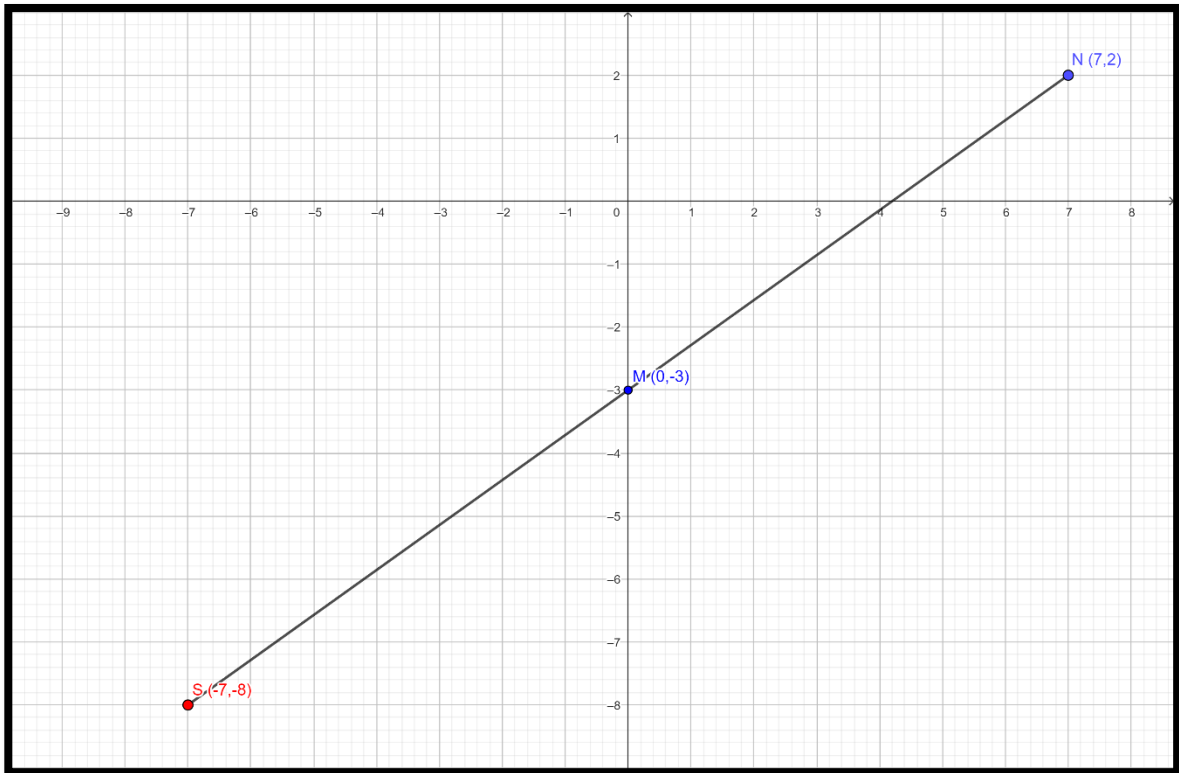
$$\overline{C} (1, 0)$$

$$\overline{D} \left(\frac{3}{2}, -\frac{16}{2} \right) \rightarrow (1'5, -8)$$



II - 9 - 8 - Ejercicio 19

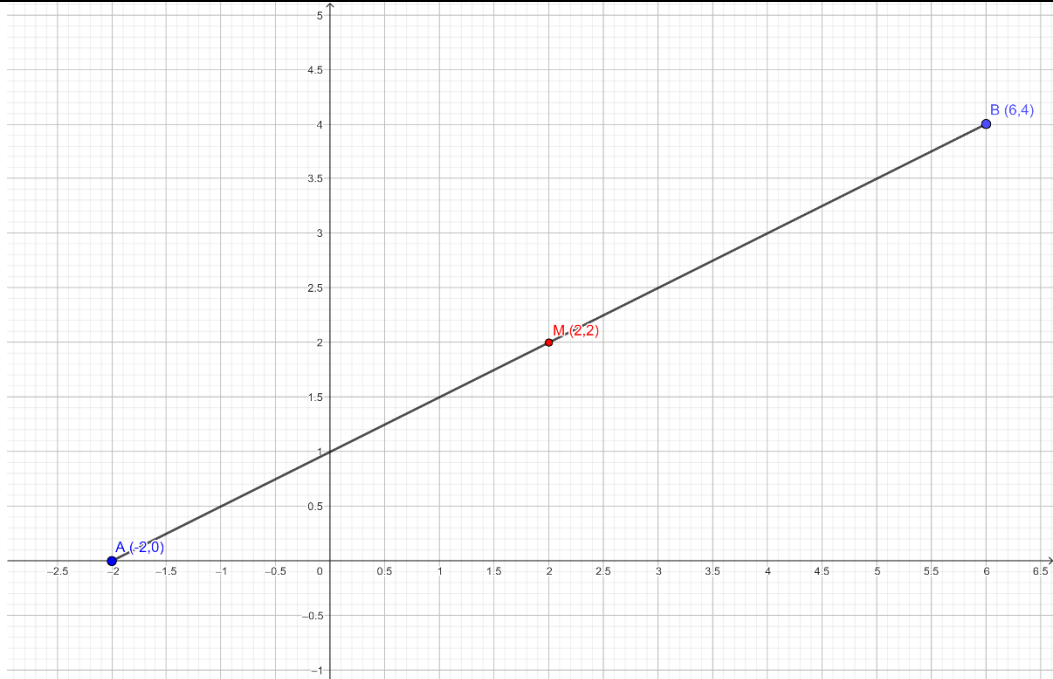
$x = -7$	$y = -8$
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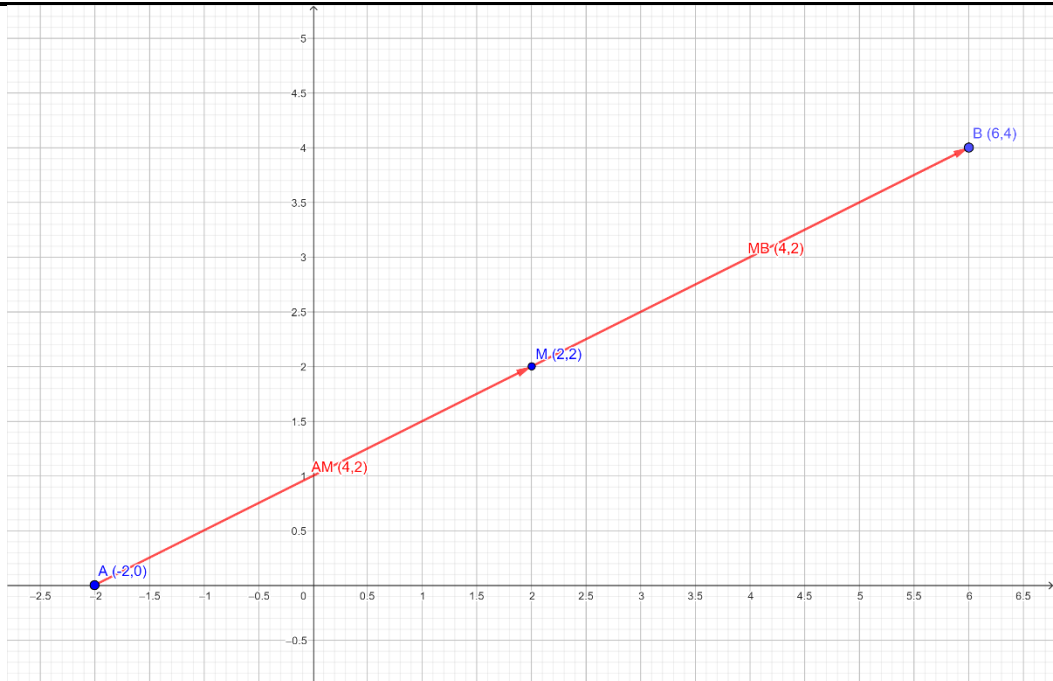
II - 9 - 17 - Ejercicio 20

a)	
$x = 2$	$y = 2$

a)

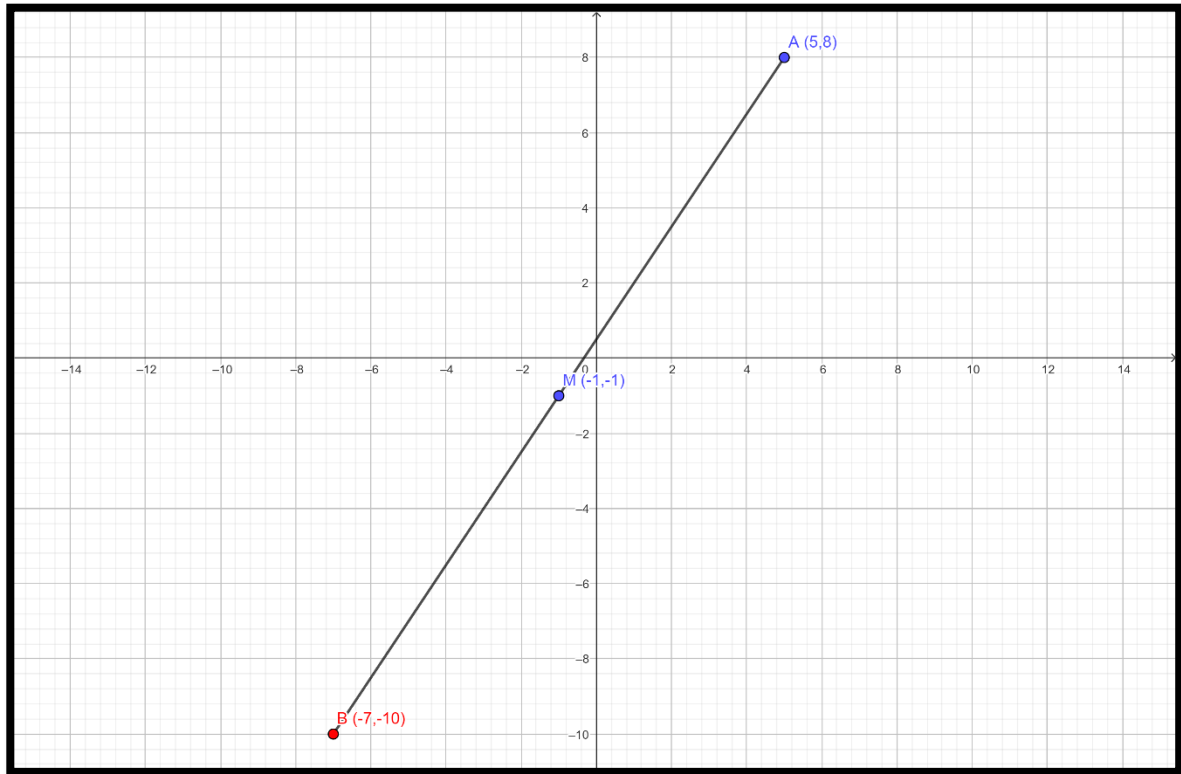


b)



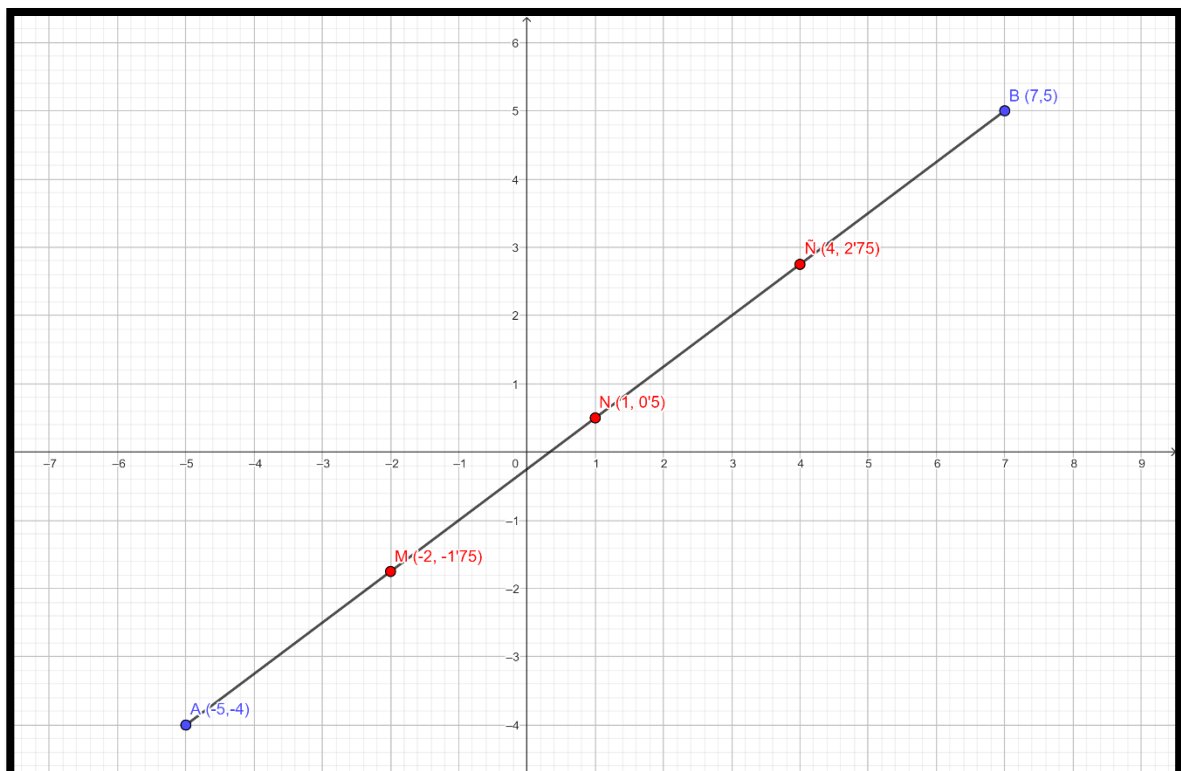
II - 9 - 41 - Ejercicio 21

$$x = -7 \quad y = -10$$



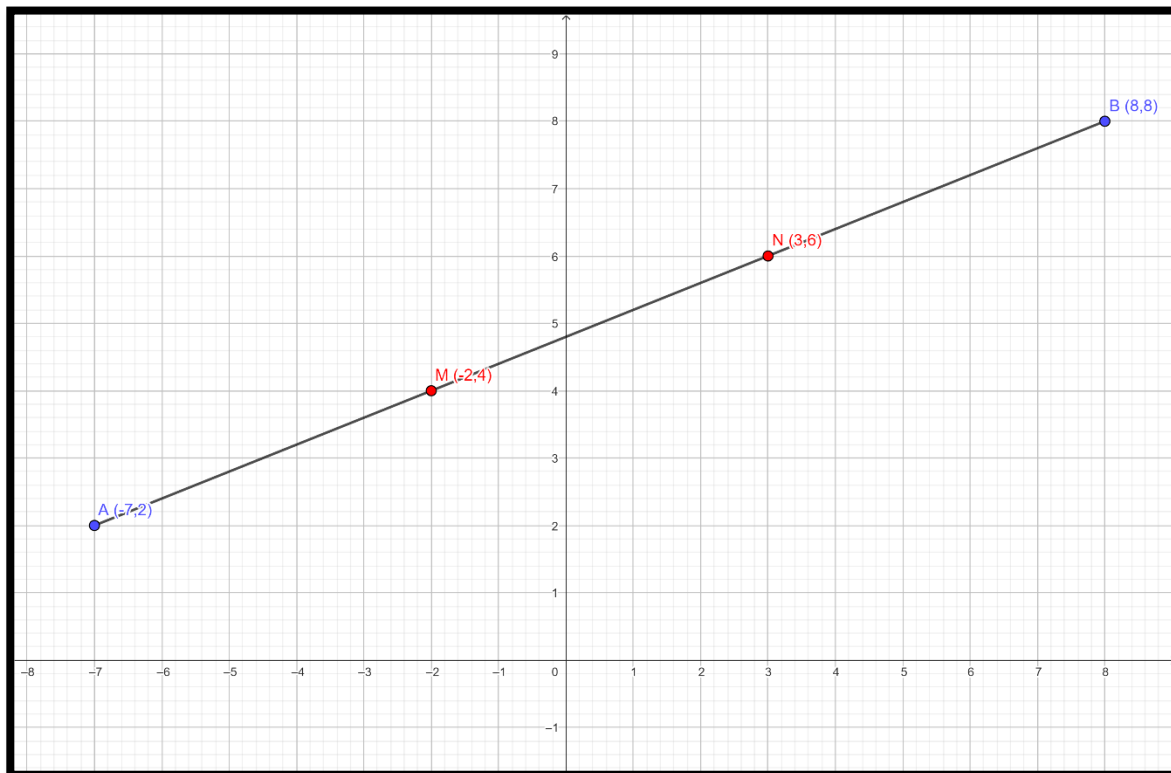
II - 9 - 30 - Ejercicio 22

$$M = (-2, -1'75) \quad N = (1, 0'5) \quad \tilde{N} = (4, 2'75)$$



II - 9 - 31 - Ejercicio 23

$$M(-2, 4) \quad N(3, 6)$$



II - 9 - 32 - Ejercicio 24

$$\overrightarrow{AB} (4, 6)$$

$$\overrightarrow{BC} (2, 3)$$

$$\frac{4}{2} = \frac{6}{3} \rightarrow 12 = 12 \rightarrow \text{SÍ}$$

$$\overrightarrow{BC} (2, 3)$$

$$\overrightarrow{CD} (4, 8)$$

$$\frac{2}{4} = \frac{3}{8} \rightarrow 16 \neq 12 \rightarrow \text{NO}$$

Están alineados los puntos A, B y C

II - 9 - 36 - Ejercicio 25

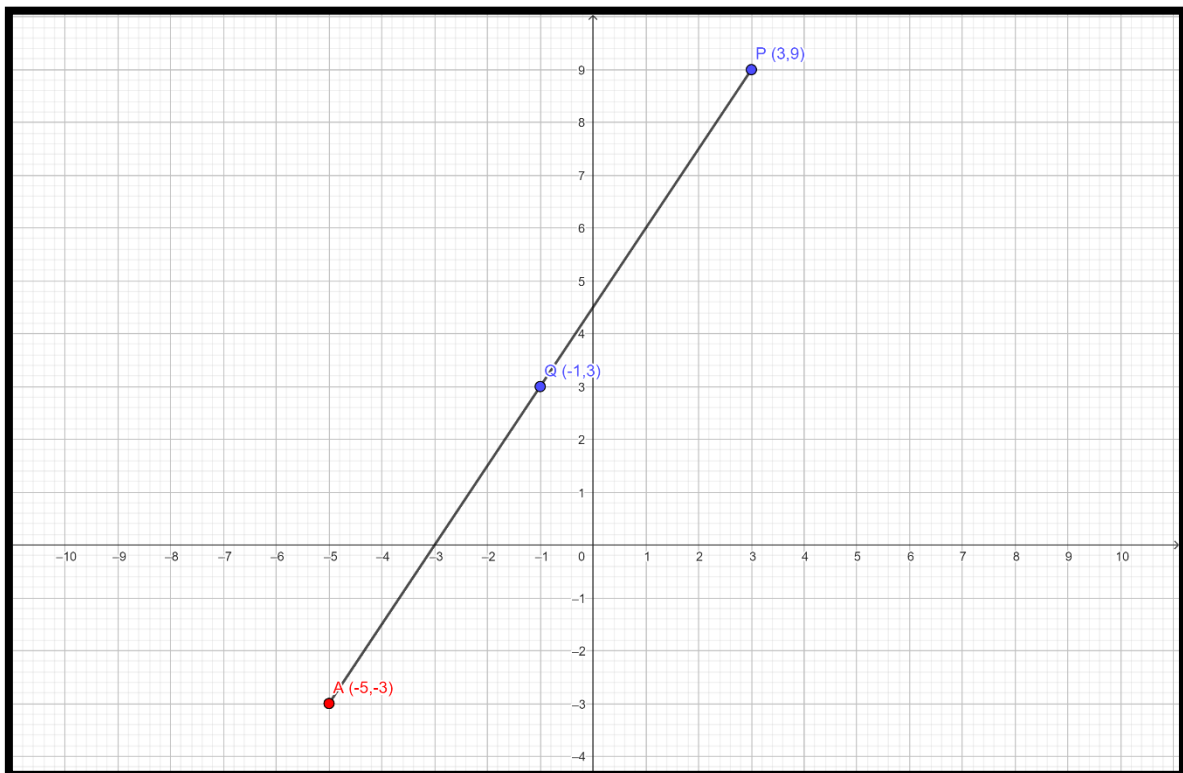
$$k = -\frac{5}{3}$$

II - 9 - 5 - Ejercicio 26

a)	b)
$-21 \neq 65$	$-32 \neq -16$
NO	NO

II - 9 - 38 - Ejercicio 27

$x = -5$	$y = -3$
$A (-5, -3)$	



II - 9 - 34 - Ejercicio 28

$$+\sqrt{242} u$$

II - 9 - 39 - Ejercicio 29

$\overrightarrow{AB} (6, 6)$	$-1 \cdot \overrightarrow{AB} (-6, -6)$	$\frac{1}{2} \cdot \overrightarrow{AB} (3, 3)$
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II - 9 - 18 - Ejercicio 30

a)	$ \overrightarrow{PQ} = 12 u$
b)	$ \overrightarrow{PQ} = \sqrt{8} \rightarrow 2\sqrt{2} u$
c)	$ \overrightarrow{QP} = \sqrt{41} u$
d)	$ \overrightarrow{QP} = \sqrt{324} \rightarrow 18 u$

II - 9 - 9 - Ejercicio 31

a)	$m = \frac{3}{1}$	$\vec{v} = (1, 3)$
b)	$m = \frac{0}{1}$	$\vec{v} = (1, 0)$
c)	$m = -\frac{4}{6}$	$\vec{v} = (6, -4)$

II - 9 - 26 - Ejercicio 32

$i \frac{2}{8} = \frac{3}{11} ? \rightarrow 22 \neq 24$	NO
$i \frac{5}{10} = \frac{2}{4} ? \rightarrow 20 = 20$	SÍ
$i \frac{-5}{2} = \frac{-3}{-4} ? \rightarrow 20 \neq -6$	NO

II - 9 - 33 - Ejercicio 33

$[16 + (-16)] = 0$
SÍ

II - 9 - 11 - Ejercicio 34

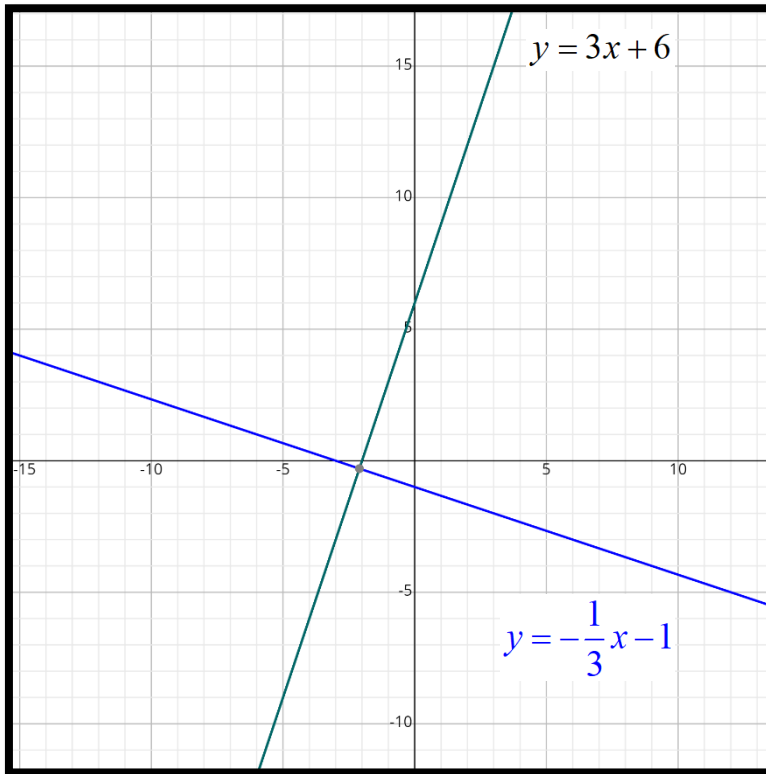
a)	$y = \frac{1}{2}x + 4$
b)	$y = -2x + 5$
c)	$y = -1$

II - 9 - 12 - Ejercicio 35

a)	$y = -\frac{1}{2}x + \frac{7}{2}$
b)	$y = 3x + 7$
c)	$y = -2$

II - 9 - 19 - Ejercicio 36

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

**II - 9 - 20 - Ejercicio 37**

$m' = -\frac{4}{1}$	$\vec{v} = (1, -4)$
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II - 9 - 40 - Ejercicio 38

a)	b)	
$k = -10$	$k = \sqrt{9}$	$k = +3$
		$k = -3$