



## GUÍA N°1: RESOLUCIÓN DE ECUACIONES LINEALES Y LITERALES

## 8° BÁSICO

NOMBRE: \_\_\_\_\_ FECHA \_\_\_\_\_

I. ECUACIONES DE PRIMER GRADO CON COEFICIENTES ENTEROS		
N°	Ecuación	Respuesta
a.	$5 - 2x = x + 2$	
b.	$2y + 1 = 3y + 4$	
c.	$6z - 3 = 5 + 2z$	
d.	$4x - 5 + x = 3 + 2x + 4$	
e.	$4 + 2x - x = 3 + 2x + 4$	
f.	$132x + 25 - 33x = -10 - x + 85$	
g.	$49x - 105 + 16x = 48x - 301 - 8$	
h.	$2 \cdot (x + 3) = 5 \cdot (x - 1)$	
i.	$(2x - 5) \cdot 2 = (3 + x) \cdot 5$	
j.	$(x + 2) - (3x + 2) = 5 \cdot (x + 4) + 1$	
k.	$2 \cdot [(3x + 1) - 2 \cdot (x + 4)] - (3x + 5) = 0$	

II. ECUACIONES DE PRIMER GRADO CON COEFICIENTES FRACCIONARIOS		
N°	Ecuación	Respuesta
a.	$\frac{3}{4}x = 2$ $x = 2 * \frac{4}{3} = \frac{2 * 4}{3} = \frac{8}{3}$	
b.	$\frac{2x}{5} = 4$	$x = 10$

c.  $\frac{x}{4} + \frac{1}{3} = 4$

$x = \frac{44}{3}$

Handwritten solution for problem c on a whiteboard:

$$\frac{x \cdot 3}{4 \cdot 3} + \frac{1 \cdot 4}{3 \cdot 4} = 4$$

$$\frac{3x}{4} + 1 = 4$$

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

$$3x = 12$$

$$x = 4$$

Handwritten solution for problem c on a whiteboard:

$$\frac{x \cdot 12}{4} + \frac{1 \cdot 12}{3} = 4 \cdot 12$$

$$3x + 4 = 48$$

$$3x = 44$$

$$x = \frac{44}{3}$$

d.  $\frac{5x}{3} + \frac{2x}{5} = \frac{x}{4} + 5\frac{9}{20}$

$x = 3$

Handwritten solution for problem d on a whiteboard:

$$\frac{5x}{3} + \frac{2x}{5} = \frac{x}{4} + 5\frac{9}{20}$$

$$\frac{20 \cdot 5x}{20 \cdot 3} + \frac{12 \cdot 2x}{12 \cdot 5} = \frac{15 \cdot x}{15 \cdot 4} + \frac{109}{20}$$

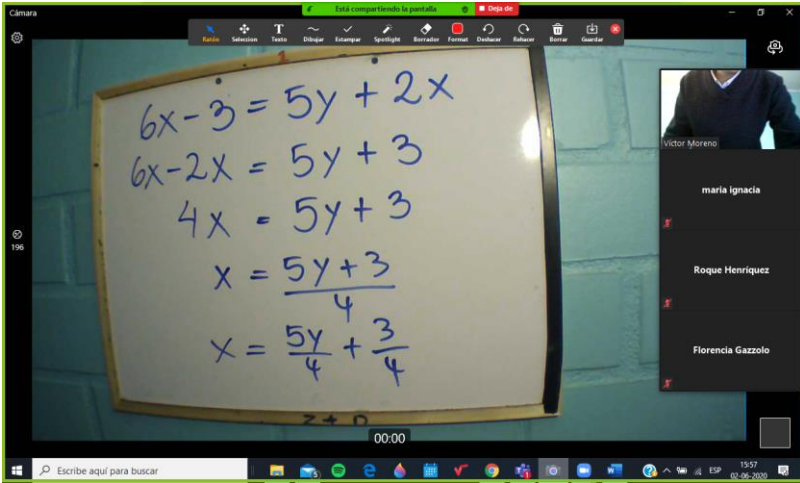
$$\frac{100x + 24x - 15x}{60} = \frac{109}{20}$$

$$109x = 109 \cdot 3$$

$$x = \frac{109}{109} \cdot 3 = 3$$

e.	$-\frac{x}{3} + \frac{3x}{2} - \frac{1}{5} = x - \frac{31}{30}$ $-10x + 15 * 3x - 6 * 1 = 30x - 31$ $-10x + 45x - 6 = 30x - 31$ $-35x - 6 = 30x - 31$ $31 - 6 = 30x + 35x$ $25 = 65x \quad /:5$ $5 = 13x$ $\frac{5}{13} = x$	<p>m.c.m(3,2,5,30)=30</p> <p>Dividimos por los denominadores</p> <p>Reducción de términos</p> <p>Agrupamos</p>
f.	$\frac{3}{4} - \frac{8x}{3} + \frac{7x}{5} + \frac{3x}{2} = \frac{7}{12}$	(control)

### III. ECUACIÓN CON COEFICIENTES LITERALES (DESPEJAR EN CADA CASO LA VARIABLE PEDIDA).

N°	Ecuación	Respuesta	
a.	$2y = x + 2$	$x =$	
	$2y + 2x = 3y + 4$		
b.	<p><b>Agrupamos Izquierda</b></p> $2y + 2x = 3y + 4$ $2y - 3y = -2x + 4$ $-y = -2x + 4 \quad / * -1$ $y = 2x - 4$	<p><b>Agrupamos Derecha</b></p> $2y + 2x = 3y + 4$ $2x - 4 = 3y - 2y$ $2x - 4 = y$	$y =$
c.	$6x - 3 = 5y + 2x$ $6x - 2x = 5y + 3$ $4x = 5y + 3$ $x = \frac{5y+3}{4} = \frac{5y}{4} + \frac{3}{4}$ 		$x = \frac{5}{4}y + \frac{3}{4}$
d.	$3x - 5 + x = 3 + 2y + 4$ (control)	$x =$	

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

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

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

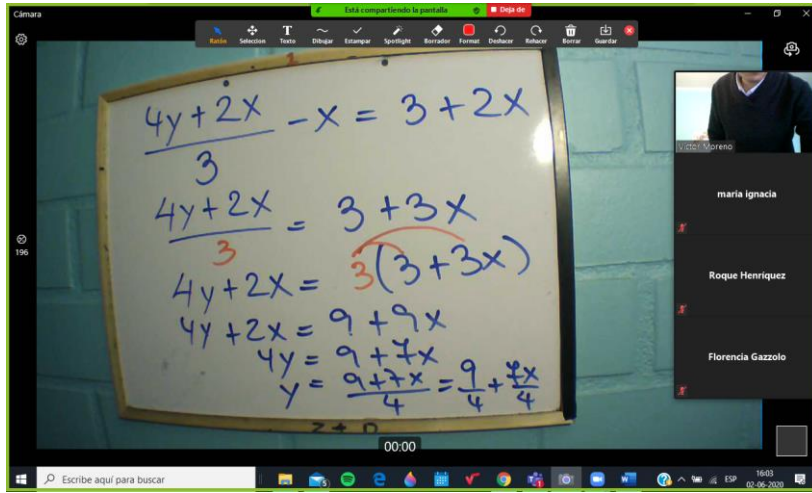
$$4y + 2x = 3(3 + 3x)$$

$$4y + 2x = 9 + 9x$$

$$4y = 9 + 7x$$

$$y = \frac{9}{4} + \frac{7x}{4}$$

e.



y =

f.

$$\frac{3}{4} - \frac{8x}{3} + \frac{7x}{5} + \frac{3x}{2} = \frac{7}{12} \quad (\text{control})$$

$$x = -\frac{5}{7}$$

d.

$$3x - 5 + x = 3 + 2y + 4 \quad (\text{control})$$

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

f.

$$\frac{2y+x}{2} = \frac{3+2x}{3} \quad (\text{control})$$

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