

Fecha:

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# UNIVERSIDAD INTERAMERICANA PARA EL DESARROLLO

Alumno:

Julián Isagí Velázquez Mendoza

Correo institucional:

00834545 @red.unid.mx

Id de alumno:

00834545

Materia:

23234-LMEI-MTS01-Álgebra Superior

Maestra:

Adriana Cruz Sedano

Trabajo:

Actividad de Aprendizaje 11

1- Resuelve

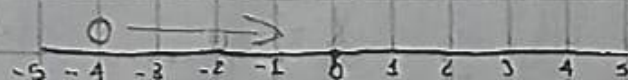
a)  $3x + 12 > 0$

$$3x > 0 - 12$$

$$3x > -12$$

$$x > \frac{-12}{3}$$

$$x > -4$$



$$(-4, \infty)$$

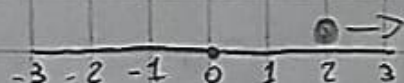
b)  $8x - 16 \geq 0$

$$8x \geq 0 + 16$$

$$8x \geq 16$$

$$x \geq \frac{16}{8}$$

$$x \geq 2$$



$$[2, \infty)$$

c)  $5x - 10 < 10$

$$5x < 10 + 10$$

$$5x < 20$$

$$x < \frac{20}{5}$$

$$x < 4$$



$$(-\infty, 4)$$

d)  $9x + 27 \leq 0$

$$9x \leq 0 - 27$$

$$9x \leq -27$$

$$x \leq \frac{-27}{9}$$

$$x \leq -3$$



$$(-\infty, -3]$$

2- Resolver

a)  $-6x + 2 \geq 0$

$$-6x \geq 0 - 2$$

$$-6x \geq -2$$

$$-x \geq -\frac{2}{6}$$

$$-x \geq -\frac{1}{3}$$

$$x \leq \frac{1}{3}$$



$$(-\infty, \frac{1}{3}]$$

b)  $10 - 5x > 0$

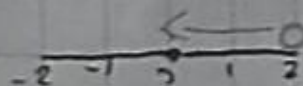
$$-5x > 0 - 10$$

$$-5x > -10$$

$$-x > -\frac{10}{5}$$

$$-x > -2$$

$$x < 2$$



$$(-\infty, 2)$$

c)  $18 - 6x \leq 0$

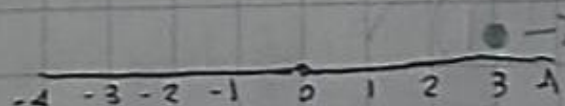
$$-6x \leq 0 - 18$$

$$-6x \leq -18$$

$$-x \leq -\frac{18}{6}$$

$$-x \leq -3$$

$$x \geq 3$$



$$[3, \infty)$$

d)  $-7x + 28 < 0$

$$-7x < 0 - 28$$

$$-7x < -28$$

$$-x < -\frac{28}{7}$$

$$-x < -4$$

$$x > 4$$



$$(4, \infty)$$



### 3. Resolve

a)  $3x + 7 > 5 - 2x - 4$

$$3x + 2x > 5 - 4 - 7$$

$$5x > -6$$

$$x > -\frac{6}{5} = -1\frac{1}{5}$$



$$(-1\frac{1}{5}, \infty)$$

b)  $12 - 8x - 9 \geq x - 6 - 4x$

$$-8x - x + 4x \geq -6 - 12 + 9$$

$$-5x \geq -9$$

$$-x \geq -\frac{9}{5}$$

$$x \leq \frac{9}{5} = 1\frac{4}{5}$$



$$(-\infty, 1\frac{4}{5}]$$

c)  $2x - 7 - 5x < 3 - x$

$$2x - 5x + x < 3 + 7$$

$$-2x < 10$$

$$-x < \frac{10}{2}$$

$$-x < 5$$

$$x > -5$$



$$(-5, \infty)$$

d)  $10x + 6 - 8x - 4 \leq 5 - 3x + 12x$

$$10x - 8x + 3x - 12x \leq 6 - 6 + 4$$

$$-7x \leq 3$$

$$-x \leq \frac{3}{7}$$

$$x \geq -\frac{3}{7}$$



$$[-\frac{3}{7}, \infty)$$

4. Resolva as inequações com parêntesis)

a)  $2 \cdot (1 - x) + 9 < 3 - (2x + 5)$

$$2 - 2x + 9 < 3 - 2x - 5$$

$$-2x + 2x < 3 - 5 - 2 - 9$$

$$0 < -13$$

$$\frac{-1}{0} \frac{1}{1}$$

b)  $4x - (x + 2) \leq 3x + 6$

$$4x - x - 2 \leq 3x + 6$$

$$4x - x - 3x \leq 6 + 2$$

$$0 \leq 8$$

c)  $5x - (3 - 2x) + 8 > 9 + 3(2x - 4)$

$$5x - 3 + 2x + 8 > 9 + 6x - 12$$

$$5x + 2x - 6x > 9 - 12 + 3 - 8$$

$$x > -8$$

$$\frac{0}{-8} \rightarrow$$

$$-8 -7 -6 -5 -4 -3 -2 -1 0 1 2 3 4 5 6 7 8$$

$$(-8, \infty)$$

d)  $3x - 2 \cdot (4 - 2x) \geq 5x - (7x + 9)$

$$3x - 8 + 4x \geq 5x - 7x - 9$$

$$3x + 4x - 5x + 7x \geq -9 + 8$$

$$9x \geq -1$$

$$x \geq -\frac{1}{9}$$



$$[-\frac{1}{9}, \infty)$$