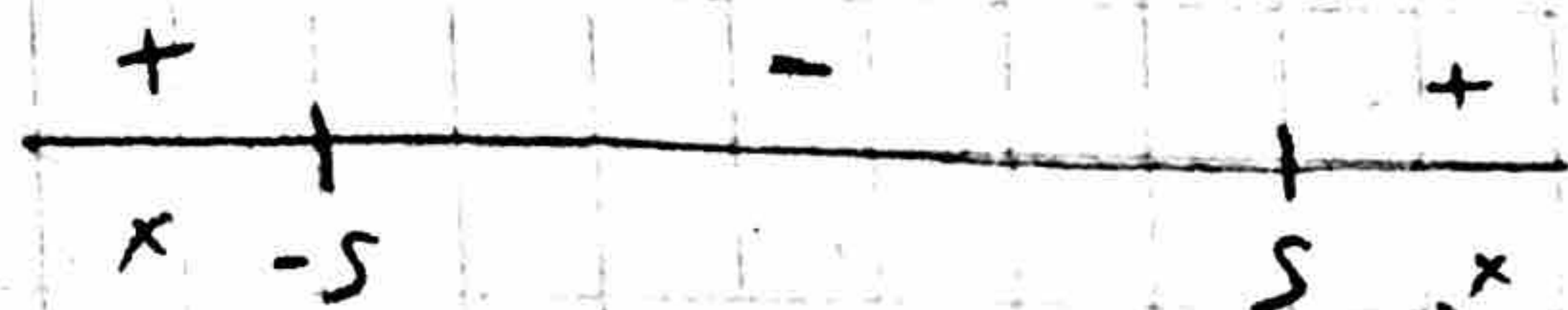


$$2. \quad x^2 - 25 > 0$$

$$(x+5)(x-5) = 0$$

$$\begin{array}{r} x+5=0 \\ -5 \quad -5 \\ \hline x=-5 \end{array}$$

$$\begin{array}{r} x-5=0 \\ +5 \quad +5 \\ \hline x=5 \end{array}$$



$$(x < -5 \text{ or } x > 5) \\ (-\infty, -5) \cup (5, \infty)$$

$$(-6) : (-6+5)(-6-5) \\ (-)(-)$$

$$(0) : (0+5)(0-5) \\ (+)(-)$$

$$(6) : (6+5)(6-5) \\ (+)(+)$$

$$4. \quad x^2 - 3x - 10 < 0$$

$$(x+2)(x-5) < 0$$

$$x+2=0$$

$$\begin{array}{r} -2 \quad -2 \\ \hline x=-2 \end{array}$$

$$x-5=0$$

$$\begin{array}{r} +5 \quad +5 \\ \hline x=5 \end{array}$$



$$-2 < x < 5$$

$$(-3) : (-3+2)(-3-5) \\ (-)(-)$$

$$(0) : (0+2)(0-5) \\ (+)(-)$$

$$(6) : (6+2)(6-5) \\ (+)(+)$$

$$6. \quad \begin{array}{r} 3x^2 + x - 10 \geq 0 \\ 1 \cdot 3 \qquad \qquad 1 \cdot 10 \\ \qquad \qquad \qquad 2 \cdot 5 \end{array}$$

$$\begin{array}{r} 13 \\ \times 25 \\ \hline 65 \end{array}$$

$$(x+2)(3x-5) \geq 0$$

Check

$$(x+2)(3x-5)$$

$$3x^2 - 5x + 6x - 10$$

$$3x^2 + x - 10$$

$$(x+2)(3x-5) \geq 0$$

$$x + 2 = 0$$

-2-2

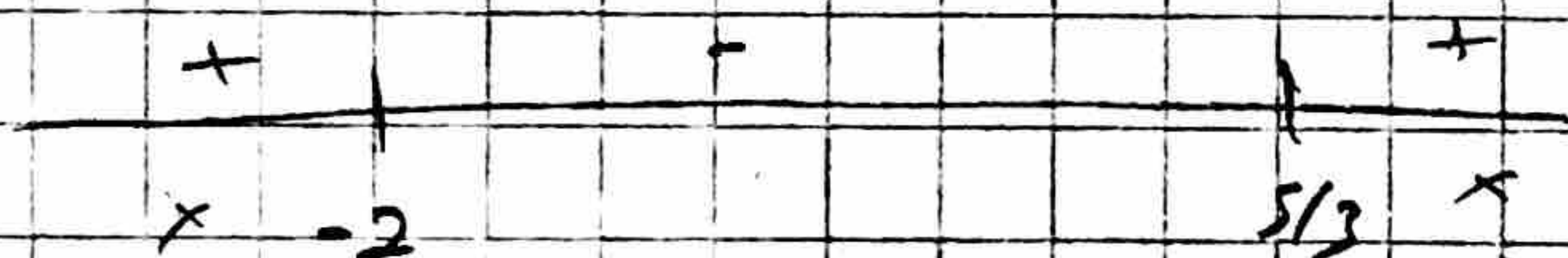
$$x = -2$$

$$3x - 5 = 0$$

$$\rightarrow S \quad \rightarrow S$$

$$\frac{3x}{3} = \frac{5}{3}$$

$$x = \frac{2}{3}$$



$$x \leq -2 \text{ or } x \geq 5/3$$

$$(-\infty, -2] \cup [5/3, \infty)$$

$$(-3) : (-3+2) \overset{-9+5}{(3(-3)-5)}$$

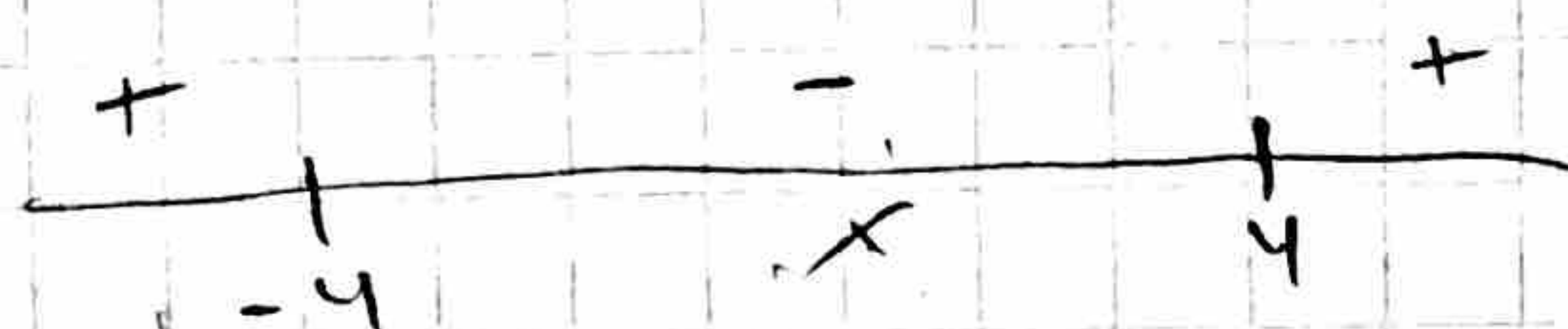
$$(0) : (0+2) \begin{pmatrix} (+) & 0-5 \\ (-) & (-) \end{pmatrix}$$

$$(2); \begin{matrix} (-) & 6-5 \\ (2+2) & (3(2)-5) \\ (+) & (+) \\ & (+) \end{matrix}$$

$$8. \frac{x+4}{x-4} \leq 0$$

$$\begin{array}{r} x+4=0 \\ -4 \quad -4 \\ \hline x=-4 \end{array}$$

$$\begin{array}{r} x-4=0 \\ +4 \quad +4 \\ \hline x=4 \end{array}$$



$$\begin{array}{r} x-4=0 \\ +4 \quad +4 \\ \hline x=4 \end{array}$$

$$-4 \leq x < 4$$

$$[-4, 4)$$

$$(-5): \frac{-5+4}{-5-4} = \frac{(-)}{(-)} = (+)$$

$$(0): \frac{0+4}{0-4} = \frac{(+)}{(-)} = (-)$$

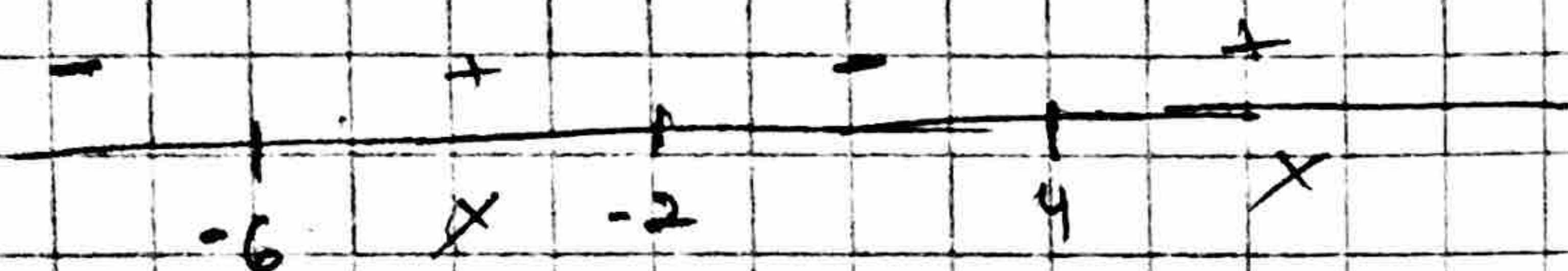
$$(5): \frac{5+4}{5-4} = \frac{(+)}{(+)} = (+)$$

$$10. \frac{(x+2)(x-4)}{x+6} \geq 0$$

$$\begin{array}{r} x+2=0 \\ -2 \quad -2 \\ \hline x=-2 \end{array}$$

$$\begin{array}{r} x-4=0 \\ +4 \quad +4 \\ \hline x=4 \end{array}$$

$$\begin{array}{r} x+6=0 \\ -6 \quad -6 \\ \hline x=-6 \end{array}$$



$$(-7) : \frac{\overset{(-)}{(-7+2)} \overset{(-)}{(-7-4)}}{\underset{(-)}{(-7+6)}} = \frac{(-)(-)}{(-)} = \frac{(+)}{(-)} = (-)$$

$$(-3) : \frac{\overset{(-)}{(-3+2)} \overset{(-)}{(-3-4)}}{\underset{(+)}{(-3+6)}} = \frac{(-)(-)}{(+)} = \frac{(+)}{(+)} = (+)$$

$$(0) : \frac{\overset{(+)}{(0+2)} \overset{(-)}{(0-4)}}{\underset{(+)}{(0+6)}} = \frac{(+)(-)}{(+)} = \frac{(-)}{(+)} = (-)$$

$$(5) : \frac{\overset{(+)}{(5+2)} \overset{(+)}{(5-4)}}{\underset{(+)}{(5+6)}} = \frac{(+)(+)}{(+)} = \frac{(+)}{(+)} = (+)$$

$$x+6=0 \quad \text{or}$$

$$\begin{array}{r} -6 \quad -6 \\ \hline \end{array}$$

$$x=-6$$

$$-6 \leq x \leq -2 \quad \text{or} \quad x \geq 4$$

$$[-6, -2] \cup [4, \infty)$$