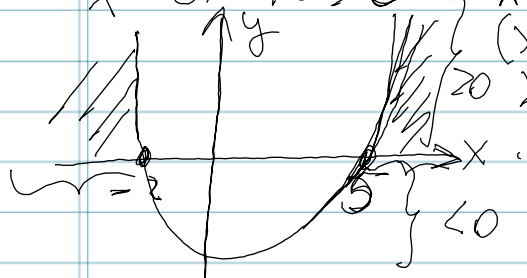


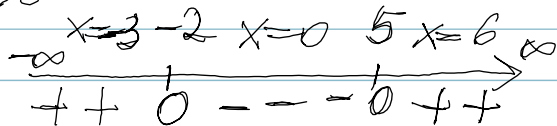
SOLVE THE INEQUALITIES

$$x^2 - 3x - 10 > 0, \quad x^2 - 3x - 10 = 0 \quad a > 0$$



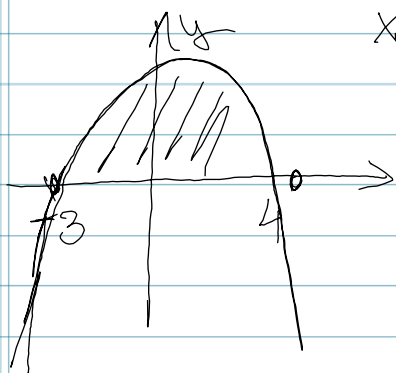
$$(x-5)(x+2) = 0$$

$$x = 5 \quad x = -2$$



$$x \in (-\infty, -2) \cup (5, \infty)$$

$$-x^2 + x \geq -12 \quad -x^2 + x + 12 = 0 \quad a < 0$$

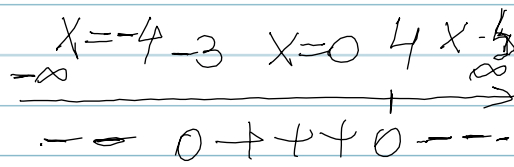


$$x = \frac{-1 \pm \sqrt{1+48}}{-2}$$

$$= \frac{-1 \pm \sqrt{49}}{-2}$$

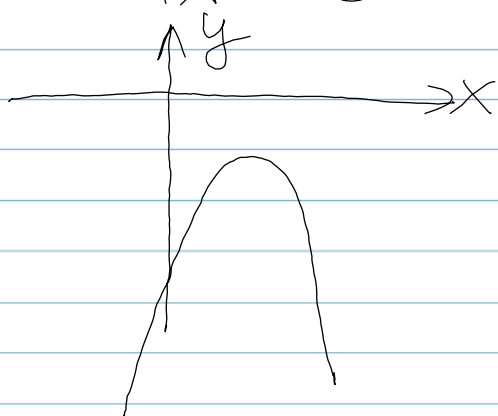
$$\frac{-1+7}{-2} = -3$$

$$\frac{-1-7}{-2} = 4$$



$$x \in [-3, 4]$$

$$-2x + 4x - 10 \leq 0$$



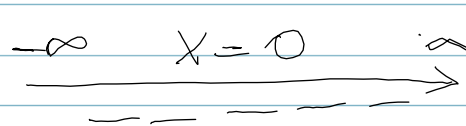
$$-2x + 4x - 10 = 0$$

$$x = \frac{-4 \pm \sqrt{16 - 80}}{-4}$$

$$= \frac{-4 \pm \sqrt{-64}}{-4}$$

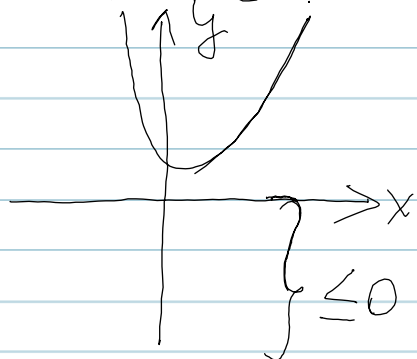
not real

$$a < 0$$



$$x \in (-\infty, \infty)$$

$$x^2 - x + 15 \leq 0$$

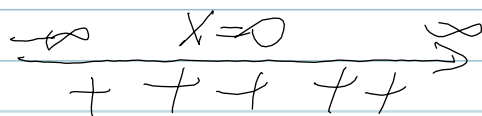


$$x^2 - x + 15 = 0$$

$$x = \frac{1 \pm \sqrt{1-60}}{2}$$

$$x = \frac{1 \pm \sqrt{-59}}{2}$$

not real



$$x \in \emptyset \text{ empty set}$$