

\wedge - AND - INTERSECTION - \cap

\vee - OR - UNION - \cup

$$A = \{1, 2, 3, 4\}$$

$$B = \{1, 3, 5, 7\}$$

$$A \cup B \supseteq A$$

$$A \cup B \supseteq B$$

$$A \cup B = \{x \mid x \in A \text{ OR } x \in B\}$$

$$= \{1, 2, 3, 4, 5, 7\}$$

$$A \cap B = \{x \mid x \in A \text{ AND } x \in B\}$$

$$\{1, 3\}$$

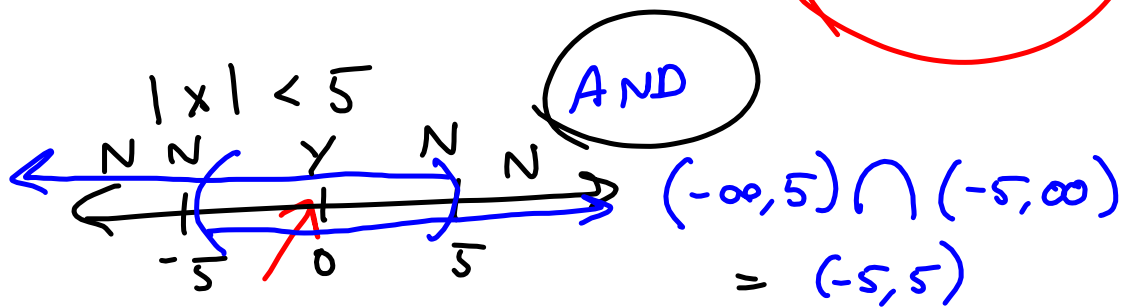
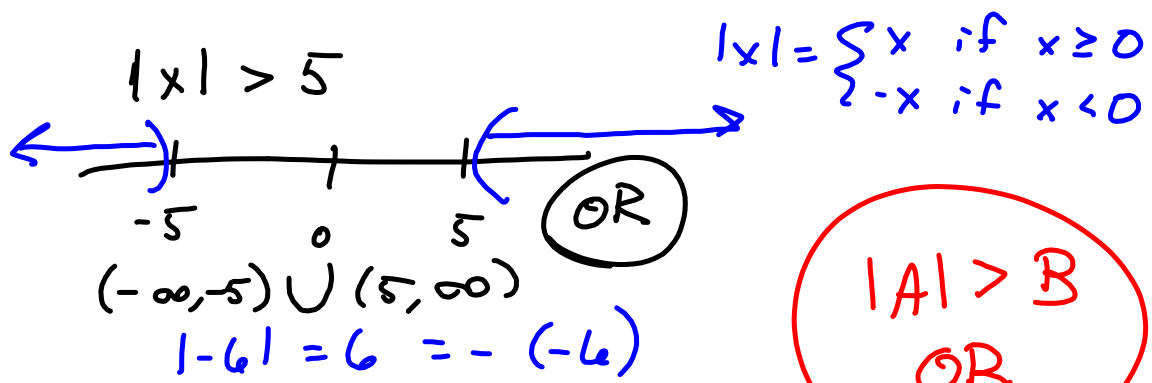
\wedge

NOTE:

$$A \cap B \subseteq A$$

$$A \cap B \subseteq B$$





$$|3-2x|+9 < 7$$

$$|3-2x| < -2$$

\emptyset Never!

$$3-2x < -2 \quad \text{AND} \quad 3-2x > 2$$

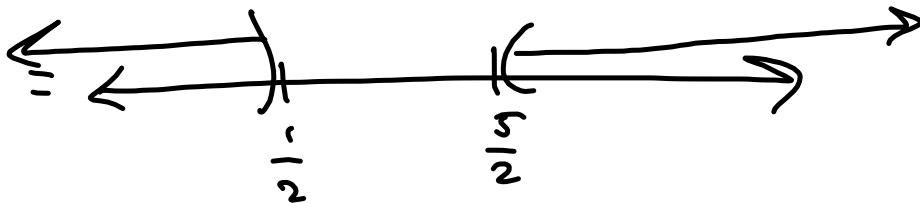
$$-2x < -5$$

$$-2x > -1$$

$$x > \frac{-5}{-2} = \frac{5}{2}$$

$$x < \frac{1}{2}$$

$$\left\{ x \mid x > \frac{5}{2} \text{ AND } x < \frac{1}{2} \right\}$$



$$= \emptyset$$

AND

$$|3-2x| + 9 > 7 \quad |A| > B$$

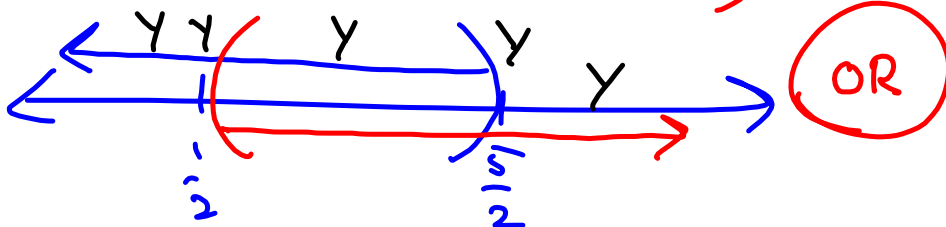
$$|3-2x| > -2 \quad (-\infty, \infty) \text{ OR Always } \heartsuit$$

$$3-2x > -2 \quad \text{OR} \quad 3-2x < 2$$

$$-2x > -5$$

$$-2x < -1$$

$$\{x \mid x < \frac{5}{2} \quad \text{OR} \quad x > \frac{1}{2}\}$$



$$= (-\infty, \infty)$$

$$|A| < B$$

$$A < B \text{ AND } A > -B$$

$$|A| > B$$

$$A > B \text{ OR } A < -B$$

Test 1 Re-dos

I'll split the difference
with you if it's

PERFECT.

10/17

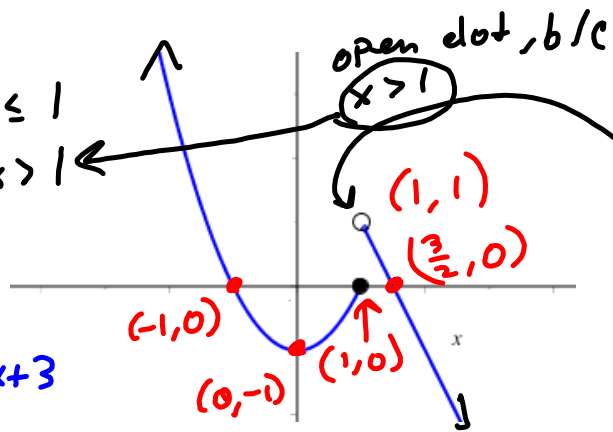
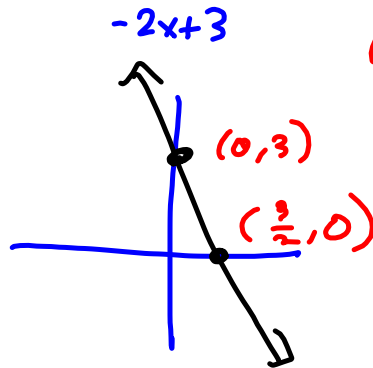
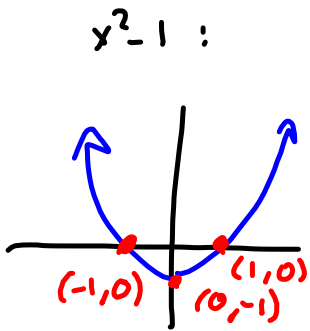
MARGIN

ONE-SIDE ONLY

SPACE

DARK

$$f(x) = \begin{cases} x^2 - 1 & \text{if } x \leq 1 \\ -2x + 3 & \text{if } x > 1 \end{cases}$$



$$-2x + 3 = 0$$

$$-2x = -3$$

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

Q $x = 1$:

$$-2(1) + 3 = 1$$

$$\rightarrow (1, 1)$$