

Test Score §2.3

§2.5 #s 14, 16, 20, 25, 40, 55

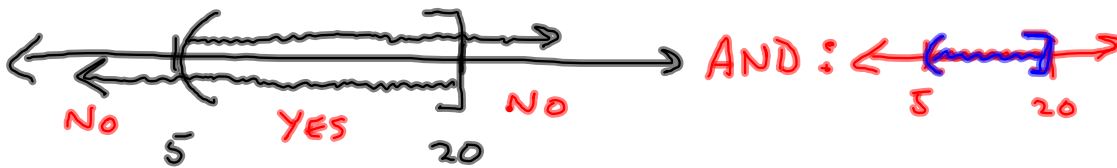
AND

$$A \cap B = \{x \mid x \in A \text{ and } x \in B\} \quad \begin{array}{l} \text{Intersection} \\ \text{Conjunction} \end{array}$$

OR

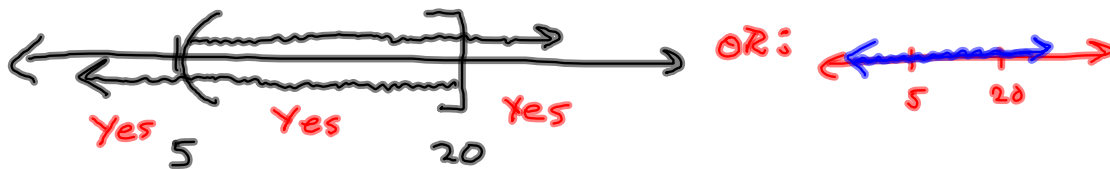
$$A \cup B = \{x \mid x \in A \text{ or } x \in B\} \quad \begin{array}{l} \text{Union} \\ \text{Disjunction} \end{array}$$

$$\{x \mid x > 5 \text{ and } x \leq 20\}$$



$$x \in (5, 20]$$

$$\{x \mid x > 5 \text{ or } x \leq 20\}$$



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

FORGET ABOUT COMPACT FORM, pg 89.
↳ BAD

$$2 < 3x - 2 \leq 6$$

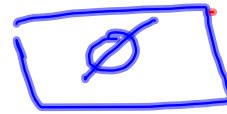
$$\begin{array}{l} +2 = \quad +2 = +2 \\ \hline 4 < 3x \leq 8 \\ \frac{4}{3} < \frac{3x}{3} \leq \frac{8}{3} \end{array}$$

$$\frac{4}{3} < x \leq \frac{8}{3} \quad \text{Shareen}$$

$$3 < 3x - 2 \leq -3$$

$$3 < -3 \text{!?!?}$$

No!



$$x \leq 2 \quad \text{and} \quad x \geq 6$$



No

No

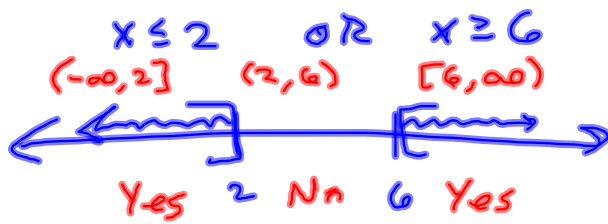
No



No sol'n



iff



$$x \in (-\infty, 2] \cup [6, \infty) = \{x \mid x \leq 2 \text{ OR } x \geq 6\}$$

19 $x+1 \geq 7$ and $3x-1 \geq 5$

$$\begin{array}{r} -1 = -1 \\ \hline x \geq 6 \end{array} \quad \text{and} \quad \begin{array}{r} +1 = +1 \\ \hline 3x \geq 6 \end{array}$$

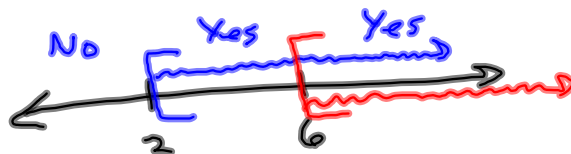
$\{x \mid x \geq 6 \text{ and } x \geq 2\}$

$$\begin{array}{r} \frac{3x}{3} \geq \frac{6}{3} \\ \hline x \geq 2 \end{array}$$



$$x \in [6, \infty)$$

$\{x \mid x \geq 6 \text{ OR } x \geq 2\}$ could come from $x+1 \geq 4$ OR $3x-1 \geq 5$, for instance,



$$x \in [2, \infty)$$

$$[2, \infty) \cup [6, \infty) = [2, \infty)$$