8/29/2012, Sec 2.5 (cont) Sec 2.6 Math 1010

Sec 2.4 6, 9

#6

1st take $180^\circ - 36 = 144$ ← two angles together

2nd divide 144 by 2 to split between the 2 angles

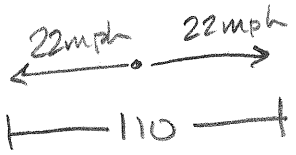
$144 \div 2 = 72^\circ$

#9

	# of coins	Denomination	Value
Pennies:	x	0.01	$0.01x$
Dimes:	x	0.10	$0.10x$
Quarters:	$44-2x$	0.25	$0.25(44-2x)$
	total coins 44		4.37

$$0.01x + 0.10x + 0.25(44 - 2x) = 4.37$$

21.



	Rate	time	distance
Steamer 1	22	t	$22t$
Steamer 2	22	t	$22t$
			110

$$22t + 22t = 110$$

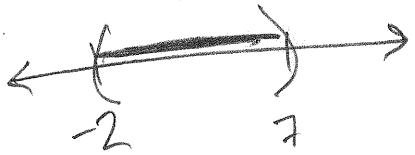
$5x + 6 < 76$

3 part Inequality

$$-4 < x - 2 < 5$$
$$+2 \quad +2 \quad +2$$

~~$-4 < x - 2 > 5$~~

$$-2 < x < 7$$



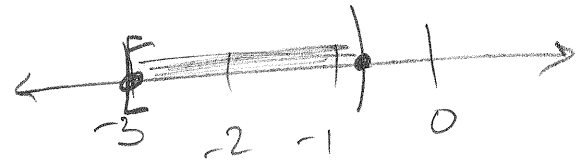
, $(-2, 7)$

Ex: $-2 < -4x - 5 \leq 7$
$+5 \quad +5 \quad +5$

$$\frac{3}{-4} < \frac{-4x}{-4} \leq \frac{12}{-4}$$

$$-\frac{3}{4} > x \geq -3$$

$$-3 \leq x < -3/4$$



, $[-3, -3/4)$

Sec 2.6 Set Operations

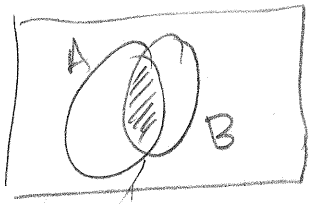
Compound Inequalities

Set Operations

- Intersections
- Unions

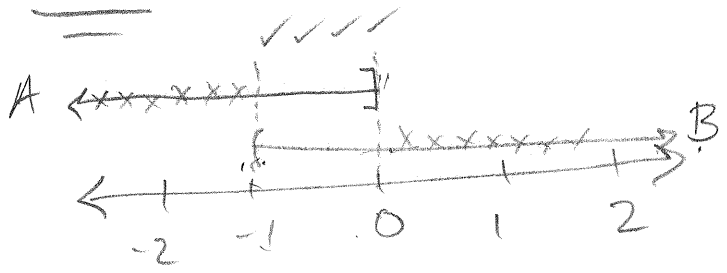
Intersection: the set of elements that Belong in both sets

Key phrase: **and**



$A \cap B$

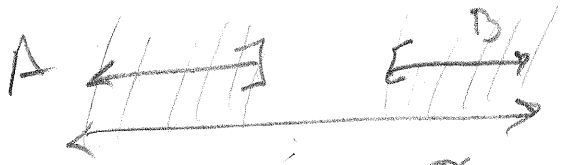
↑ symbol for Intersection



$A \cap B = (-1, 0]$

↓

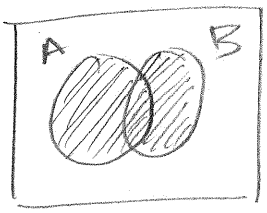
Read "A intersect B" or "A and B"

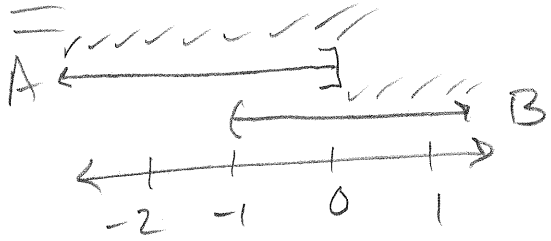


$A \cap B = \varnothing$

Union: the set of elements that Belong to either of the sets

Key Word: Or



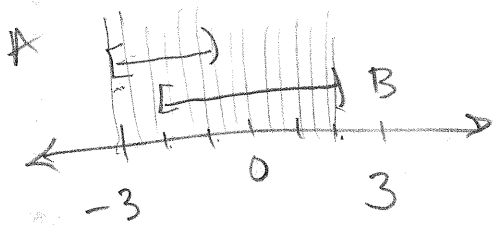


$A \cup B = \mathbb{R}$

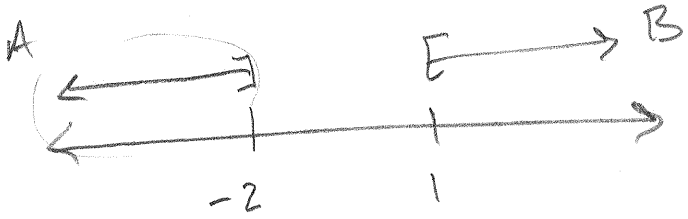
all Real #s

$(-\infty, \infty)$

$A \cup B$ ← Read "A union B" or "A or B"



$A \cup B = [-3, 2)$



$A \cup B = (-\infty, -2] \cup [1, \infty)$

A compound Inequality consists of two inequalities linked by a connective words (and/or)

How to Solve

1. Solve each Inequality Seperately
2. a) if joined with "and", the solution is the numbers that satisfy both inequalities

   b) if joined with "or", the solution is the numbers that satisfy either inequality

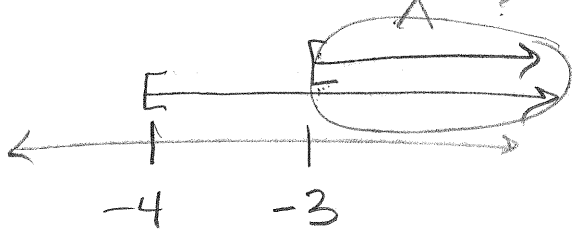
Ex: $2x \leq 4x+8$ and $\frac{3x}{3} \geq \frac{-9}{3}$

$-4x \quad -4x$

$\frac{-2x}{-2} \leq \frac{8}{-2}$

$x \geq -4$

$x \geq -3$



Solution $[-3, \infty)$