Proposed Format Change for the course: A more finely-honed homework assignment and Fewer Tests.

122 students liked: Homework Wednesday. Quizzes Monday. } when they're due.

Homework: 20%
Quizzes: 40%
Midterm: 20%
Final: 20%

Homework: I will build a worksheet that contains a handful of questions that hit the main concepts. I'll collect it on Mondays.

Quiz: Once a week (typically Friday), I will give a 20-minute *closed*-book quiz, based on the homework(s).

Quizzes will be built from homework assignments (very similar problems, in other words).

Midterm and Final will be built from Quizzes (very similar problems, in other words).

I think this will streamline preparations for a lot of students.

Procedure:
- Go to Course Website.
- Click on Homework Tab.
- Download and print the week's homework.
- Turn in the homework when it is due.

Do your work on scratch paper, and *then* do a careful job transferring it to the homework sheet.

This first quiz will combine homework and quiz into one assignment, due this coming Wednesday.

I think this will focus your work, more, and avoid the busy-work nonsense, and prepare you better, with less stress.

Still, a good student learning this material for the 1st time, will end up doing far *more* problems than are assigned, but only as many as needed to master the concepts.

Inequalities, Compound Inequalities
2.4 2.5

Absolute Value Inequalities
2.6

$-3x + 2 < 7$

$-3x \leq 5$

$x \geq \frac{5}{-3}$

Compound Inequality

$3x+2 > 7$ and $3x+2 < -7$

$3x > 5$ AND $3x < -9$

$x > \frac{5}{3}$ AND $x < -3$

"And" is a RESTRICTION ON CLUB MEMBERSHIP

which club is bigger:

BIG $\{x \mid x \text{ is a man OR } x \text{ is a woman}\}$

very small $\{x \mid x \text{ is a man AND } x \text{ is a woman}\}$

AND MEANS INTERSECTION

$\wedge$ .. $\cap$

OR .. UNION

$\vee$ .. $\cup$

$\{x \mid x > \frac{5}{3}$ AND $x < -3\}$

$= \{x \mid x > \frac{5}{3}\} \cap \{x \mid x < -3\} = \varnothing$

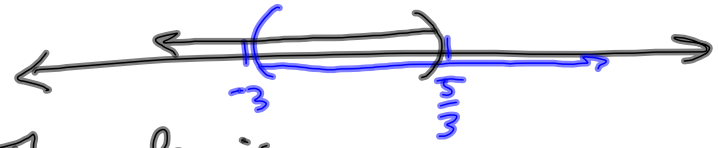
$x > \frac{5}{3}$

$x < -3$

No OVERLAP. NO Intersection

Consider:

$\{x \mid x < \frac{5}{3}$ AND $x > -3\}$



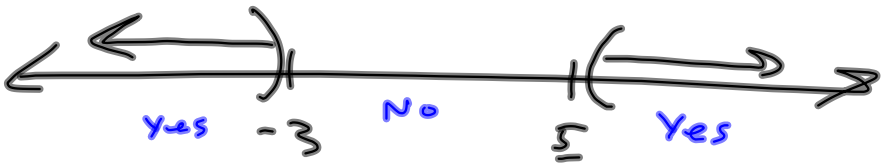
$x < \frac{5}{3}$

$x > -3$

The overlap is

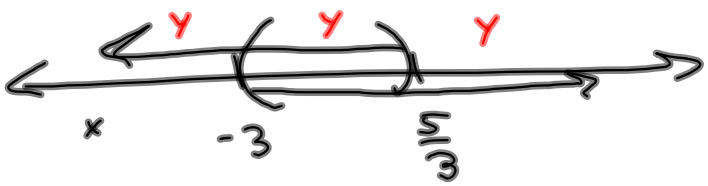
$(-3, \frac{5}{3})$

$\{x \mid x > \frac{5}{3}$ OR $x < -3\}$



$(-\infty, -3) \cup (\frac{5}{3}, \infty)$

$\{x \mid x < \frac{5}{3}$ OR $x > -3\}$



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

$x > -3$

$(-\infty, \infty)$

(

$|3x+2|<7$ means

$3x+2<7$ AND $3x+2>-7$

$|3x+2|>7$

$3x+2>7$ OR $3x+2<-7$

Mind your and's and your or's.

$|3x-7|>-5$ Always

$|3x-7|<-5$ Nevah!

Absolute Value Equations

$|x| = 3$

$x = 3$ OR $x = -3$

$|\text{☺}| = \Delta$

$\text{☺} = \Delta$ OR $\text{☺} = -\Delta$

$\text{☺} = \pm\Delta$

$|3x + 2| = 7$

$3x + 2 = \pm 7$

~~$|3x+2| < 7$~~

~~$3x+2 < \pm 7$~~

No!

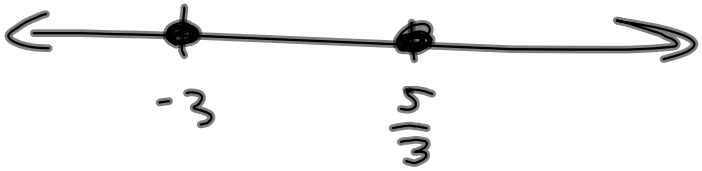
$3x = -2 \pm 7$

$x = \frac{-2 \pm 7}{3}$

$\frac{-2+7}{3} = \frac{5}{3}$

$\frac{-2-7}{3} = -\frac{9}{3} = -3$

$x \in \{-3, \frac{5}{3}\}$



$\{x \mid x = -3 \text{ OR } x = \frac{5}{3}\}$