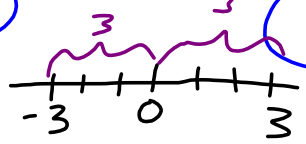
Warm Up

1) $|3| = x$

$x = 3$

2) $|-3| = y$

$y = 3$



3) $-5 < 3 - 2x \leq 7$

$-3 \quad -3 \quad -3$

$-8 < -2x \leq 4$

$\frac{-8}{-2} < \frac{-2x}{-2} \leq \frac{4}{-2}$

$4 > x \geq -2$

$-2 \leq x < 4$

Warm Up

1) $|x| = 4$

$x = 4$ or $x = -4$

$|4| = 4$

$|-4| = 4$

2) $|x| = 0$

$x = 0$

3) $|-8| = x$

$x = 8$

4) $|x| = -9$

No Soln

Homework Questions?

Self Scoring Scale

4- I can *summarize* the concepts and explain it to others.

3- I can *apply* the concepts to answer questions correctly.

2- I can *apply* the concepts but with some *mistakes*.

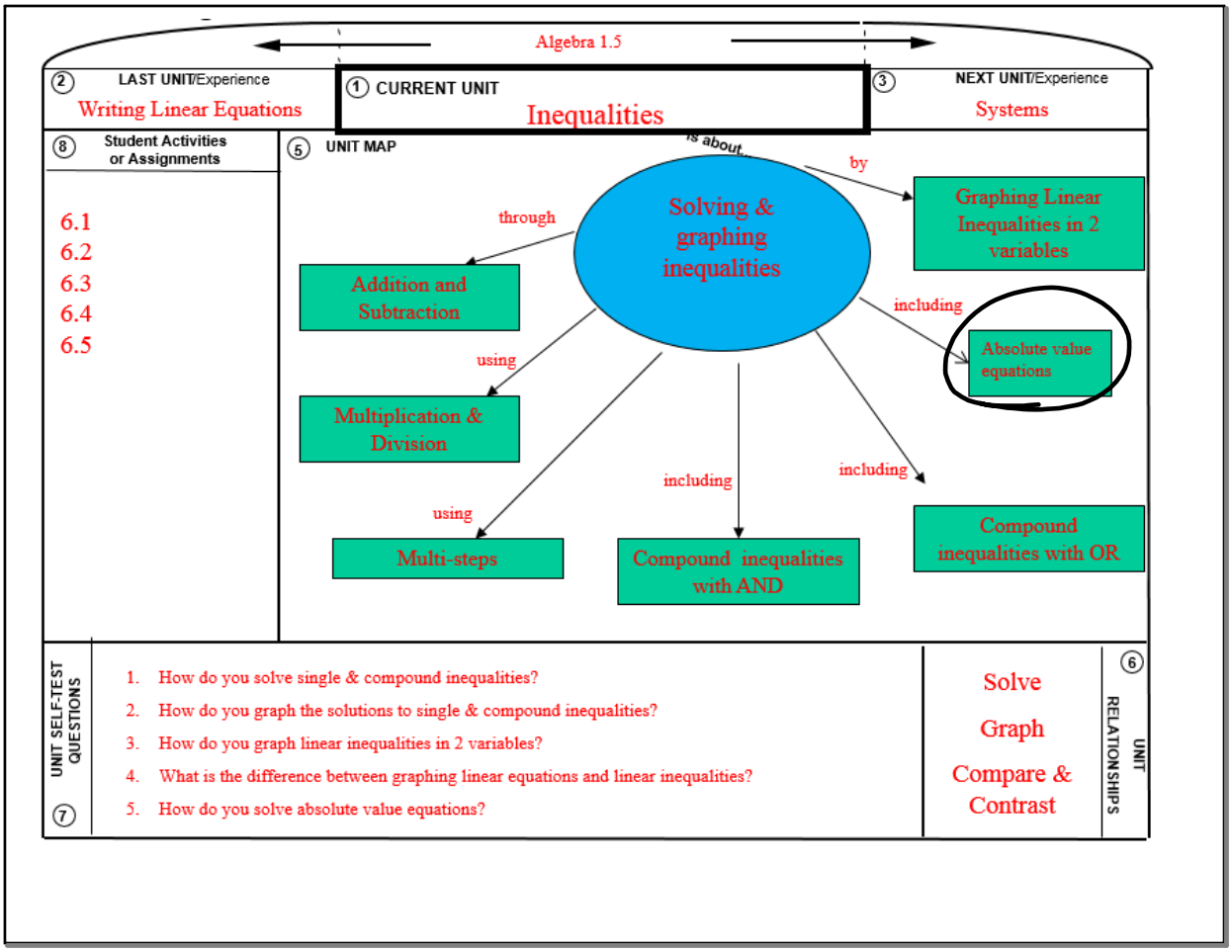
1- I *need help* to know how to apply the concepts.

0- I *can't* apply the concepts even with help.

6.4 Day 1: Solving Absolute-Value Equations and Inequalities

Goals:
- Solve absolute-value equations and inequalities.

EQ: How do you solve an absolute-value equation?



Solving an Absolute-Value Equation

1) $|x| = 6$

$x = 6$ or $x = -6$

2) $|0| = x$

$x = 0$

3) $|x| = -7$

No Soln.

4) $|x + 3| = 5$

pos: $x + 3 = 5$, $-3 \quad -3$, $x = 2$

OR

neg.: $x + 3 = -5$, $-3 \quad -3$, $x = -8$

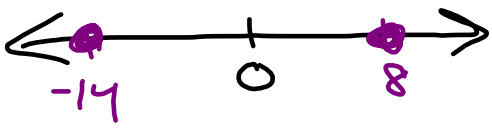
Try It

5) $|x + 3| = 11$

pos: $x + 3 = 11$, $-3 \quad -3$, $x = 8$

OR

neg: $x + 3 = -11$, $-3 \quad -3$, $x = -14$

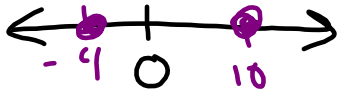


6) $|x - 3| = 7$

$x - 3 = 7$, $+3 \quad +3$, $x = 10$

OR

$x - 3 = -7$, $+3 \quad +3$, $x = -4$



Solve the equation.

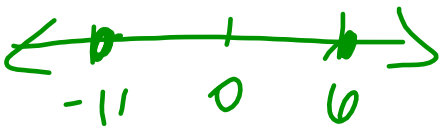
7) $|4x + 10| = 34$

$4x+10=34$ $\quad$ $4x+10=-34$

$-10\ -10$ $\quad$ $-10\ -10$

$\frac{4x}{4}=\frac{24}{4}$ $\quad$ $\frac{4x}{4}=\frac{-44}{4}$

$x=6$ OR $x=-11$

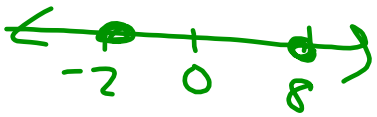


8) $|x - 3| = 5$

$x-3=5$ $\quad$ $x-3=-5$

$+3\ +3$ $\quad$ $+3\ +3$

$x=8$ $\quad$ $x=-2$



Try It

9) $|4x - 2| = 6$

$4x-2=6$ $\quad$ $4x-2=-6$

$+2\ +2$ $\quad$ $+2\ +2$

$\frac{4x}{4}=\frac{8}{4}$ $\quad$ $\frac{4x}{4}=\frac{-4}{4}$

$x=2$ OR $x=-1$

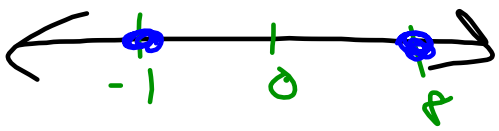
10) $|2x - 7| = 9$

$2x-7=9$ $\quad$ $2x-7=-9$

$+7\ +7$ $\quad$ $+7\ +7$

$\frac{2x}{2}=\frac{16}{2}$ $\quad$ $\frac{2x}{2}=\frac{-2}{2}$

$x=8$ OR $x=-1$



Summary

EQ: How do you solve an absolute-value equation?

if expression in | |, split into 2 equations (pos./neg)

6.4 Day 1 Homework

6.4 Day1 p.356 #6-8, 19-33

& 6-5 Study guide wkst #1-12