

Test Notes

Al

* please see quiz notes

Solving literal equations

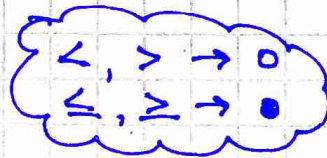
• same rules as solving for x

ex 1 $k + w - 2z = 3w$, solve for w

$$\frac{k - 2z}{2} = \frac{2w}{2}$$

$$\frac{k - 2z}{2} = w$$

Solving Inequalities



• try to get x alone

• flip the sign when multiplying or dividing by a negative

ex 1 $3(x - 2) \geq 12$

$$3x + 6 \geq 12$$

$$+6 \quad +6$$

$$\frac{3x}{3} \geq \frac{18}{3}$$

$$x \geq 6$$



ex 2 $-2x - 4 < 8$

$$\frac{-2x}{-2} < \frac{12}{-2}$$

$$x > -6$$



Solving absolute value

• get abs value bars alone, then split into 2 eq.

ex 1 $2|x - 5| + 1 = 7$

$$-1 \quad -1$$

$$\frac{2|x - 5|}{2} = \frac{6}{2}$$

$$|x - 5| = 3$$

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

$$x = 8$$

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

$$x = 2$$

Solving abs. value inequalities

less than

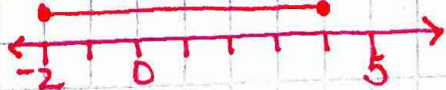
ex1 $2|x-1| \leq \frac{6}{2}$

$$|x-1| \leq 3$$

$$-3 \leq x-1 \leq 3$$

$$+1 \quad +1 \quad +1$$

$$-2 \leq x \leq 4$$



greater than

ex2 $|x-7| + 2 > 9$

$$|x-7| > 7$$

$$x-7 > 7$$

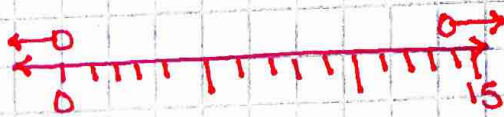
$$+7 \quad +7$$

$$x > 14$$

$$x-7 < -7$$

$$+7 \quad +7$$

$$x < 0$$



no solution / infinite solution

Equals solving

- $0 = 0 \rightarrow$ infinite solutions
- $0 = \#$ (false) \rightarrow no solution

Inequalities

- something true ($5 > -2$) \rightarrow infinite solutions
- something false ($-2 > 0$) \rightarrow no solution

Absolute value

- cannot be negative: i.e. $|x+5| = -2$ no solution