Algebra 1 1/10

Warm Up IXL

Make Up

Algebra 1

C.1-C.6 or I.1-I.7

2.5 Solving Equations Involving Absolute Value

I can solve and evaluate absolute value equations

Absolute Value

distance from zero on a number line

Ex 1. Evaluate $|m+6|-14$ if $m=4$

$|4+6|-14$

$|10|-14 = 10-14 = -4$

I can solve and evaluate absolute value equations

Ex 2 Evaluate $23 - |3 - 4x|$ if $x = 2$

$23 - |3 - 4 \cdot 2|$

$23 - |3 - 8|$

$23 - |-5|$

$23 - 5 = 18$

I can solve and evaluate absolute value equations

Solving Absolute Value Equations always requires two cases since distance from zero can be on both the positive side and the negative side of zero

$$|x - 3| = 5$$

Case 1

Get rid of absolute value bars and keep everything the same

$$x - 3 = 5$$

$+3 \quad +3$

$x = 8$

Case 2

Get rid of absolute value bars and change the sign on the constant (number after the equal sign)

$$x - 3 = -5$$

$+3 \quad +3$

$x = -2$

I can solve and evaluate absolute value equations

Ex 3. Solve the equation then graph the solution set

$$|f+5|=17$$

Case 1

$f+5=17$

$-5 \quad -5$

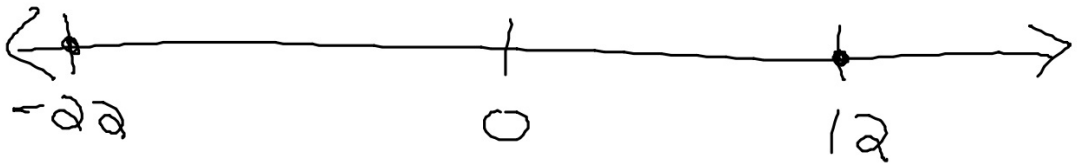
$f=12$

Case 2

$f+5=-17$

$-5 \quad -5$

$f=-22$



I can solve and evaluate absolute value equations

Ex 4 Solve the equation then graph the solution set

$$|b-1| = -3$$

Case 1

$b - 1 = -3$

$+1 \quad +1$

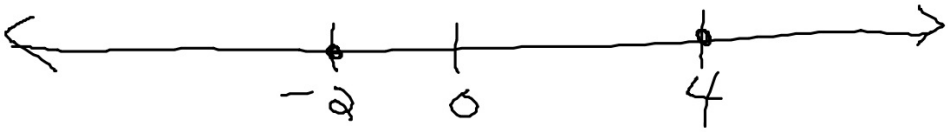
$b = -2$

Case 2

$b - 1 = 3$

$+1 \quad +1$

$b = 4$



I can solve and evaluate absolute value equations

Ex 5 Solve the equation then graph the solution set

$$|y+2|=4$$

Case 1

$y+2=4$

$-2 \quad -2$

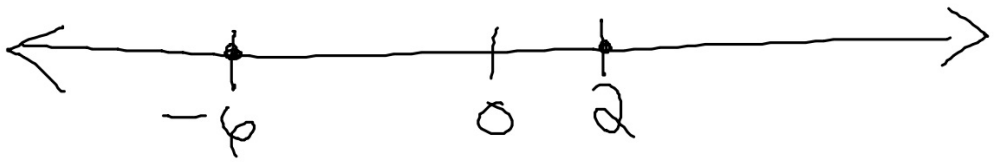
$y=2$

Case 2

$y+2=-4$

$-2 \quad -2$

$y=-6$



I can solve and evaluate absolute value equations

Ex. 6 Solve the equation then graph the solution set

$$|3n + 4| = -1$$

Case 1

$3n + 4 = -1$

$-4 \quad -4$

$3n = -5$

$\frac{3n}{3} = \frac{-5}{3}$

$n = \frac{-5}{3}$

≈ -1.6

Case 2

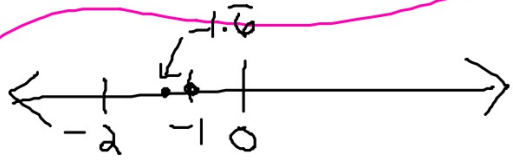
$3n + 4 = 1$

$-4 \quad -4$

$3n = -3$

$\frac{3n}{3} = \frac{-3}{3}$

$n = -1$



I can solve and evaluate absolute value equations

ICA PG 105
#2-8ev
14-30ev