

Absolute Value Equations

SWBAT solve absolute value equations in one variable.

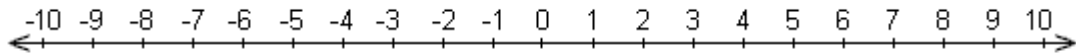
Assignments

HW13

Absolute Value

- ▶ **Absolute Value**

- ▶ The distance a number is from 0



- ▶ $|14|$
- ▶ $|-200|$
- ▶ $|-38|$

- ▶ Can an absolute value ever be 0?

- ▶ Can an absolute value ever be negative?

Absolute Value Equations

▶ $|x| = 9$

▶ $|y| = 300$

1. $|x| = 608$

2. $|x| = 20$

3. $|x| = -34$

4. $|x| = 7$

5. $|x| = -2$

Absolute Value Equations

▶ $|n - 5| = 14$

▶ $|3x + 2| = 10$

1. $|x + 8| = 37$

2. $|4x + 1| = 17$

3. $|-x - 1| = 20$

4. $\left|\frac{x}{3} + 2\right| = 0$

5. $\left|\frac{v+9}{2}\right| = 15$

6. $|3x + 4| = 17$

7. $|x - 4| = -19$

8. $|-x| = 15$

Absolute Value: Summary and Notes

- ▶ $|\underline{\quad}| = (+)$: 2 solutions
- ▶ $|\underline{\quad}| = 0$: 1 solution
- ▶ $|\underline{\quad}| = (-)$: No solutions

- ▶ The number of solutions is the same as the number of equations that are written

- ▶ Adding/Subtracting *inside* the absolute value results in solutions that are completely different numbers
- ▶ What is inside the absolute value *never changes*
- ▶ Absolute value counts as “parentheses” in SADMEP