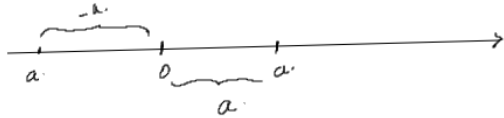


Absolute value

$$|a| = \begin{cases} a & \text{if } a \geq 0 \\ -a & \text{if } a < 0 \end{cases}$$

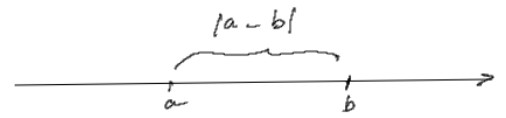


$|a|$ = distance of a to 0 .

$|a - b|$ = distance between a and b .

$$|-a| = |a| \quad ; \quad |a \cdot b| = |a| \cdot |b|$$

$$|a + b| \leq |a| + |b|$$



$$\sqrt{a^2} = |a|$$

Ex: $A = |(-8) - 5| - 2|-3| + |3(-4)| - \left| \frac{10}{-2} \right| - \frac{|-15|}{-3} + 0.5 + \frac{1}{4}|-2|$

- $|(-8) - 5| = |-13| = |13| = 13$
- $2|-3| = 2|3| = 2 \times 3 = 6$
- $|3(-4)| = |-12| = |12| = 12$
- $\left| \frac{10}{-2} \right| = |-5| = -(-5) = 5$
- $\frac{1}{4}|-2| = \frac{1}{4}(-(-2)) = \frac{1}{4} \times 2 = \frac{1}{2}$
- $\frac{|-15|}{-3} = \frac{-(-15)}{-3} = \frac{15}{-3} = \frac{5 \times 3}{-3} = -5$

$$\begin{aligned} A &= 13 - 6 + \underbrace{12 - 5}_{= 7} - (-5) + \underbrace{0.5 + 0.5}_{= 1} \\ &= 7 + 7 + 5 + 1 \\ &= 14 + 6 \\ &= 20 \end{aligned}$$

✓