MATH 1010 ~ Intermediate Algebra

Chapter 2: LINEAR EQUATIONS AND INEQUALITIES

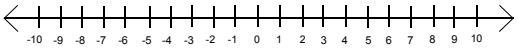
Section 2.5: Absolute Value Equations and Inequalities

Objectives:

- Solve absolute value equations
- Solve inequalities involving absolute value.

Sketch the solution on the number line.

$|2x-3| < 5$



$|x| = a$ means

① EXAMPLE:

a) $|x| = 5$

b) $|x + 3| = 5$

c) $|3x - 2| = 8$

d) $|2x - 1| + 7 = -10$

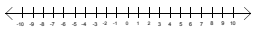
e) $|3x - 4| = |7x - 16|$

f) $|x + 2| = |x + 9|$

|x| < a means

|x| > a means

|x| < 5

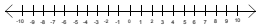


|x| > 5

② Examples

a) |x - 4| ≤ 6

b) |3x - 4| ≥ 5



Watch for this: |2x + 3| ≤ -2