

## Section 1.6 Equations and Inequalities Involving absolute Values

$$|u| = a \text{ is equivalent to } u = a \text{ or } u = -a$$

Ex: a)  $|x-3|=10$

b)  $|2x+1|-3=7$

c) Solve the inequality:  $|x| \leq 3$

d) Solve the inequality:  $|x| > 2$

$$|u| < a \text{ is equivalent to } -a < u < a$$

$$|u| \leq a \text{ is equivalent to } -a \leq u \leq a$$

$$|u| > a \text{ is equivalent to } u < -a \text{ or } u > a$$

$$|u| \geq a \text{ is equivalent to } u \leq -a \text{ or } u \geq a$$

e) Solve the inequality:  $|3x-1| \leq 5$ . Graph

f) Solve the inequality:  $|3-2x| < 4$ . Graph

g) Solve  $|3x-2| + |-5| > 12$ . Graph