

## Section 8.3 Absolute Value Functions

1. What are the domain and range of the function  $y = |x|$ ?
  - (a) Domain:  $(-\infty, \infty)$ ; Range:  $[0, \infty)$
  - (b) Domain:  $(-\infty, \infty)$ ; Range:  $(-\infty, \infty)$
  - (c) Domain:  $[0, \infty)$ ; Range:  $(-\infty, \infty)$
  - (d) Domain:  $(-\infty, \infty)$ ; Range:  $[0, \infty]$
  - (e) Domain:  $[0, \infty)$ ; Range:  $[0, \infty)$
2. The two equations to write when solving the equation  $|3x + 5| = 8$  are:
  - (a)  $3x + 5 = 8$  and  $3x - 5 = 8$
  - (b)  $3x + 5 = 8$  and  $-3x + 5 = 8$
  - (c)  $3x + 5 = 8$  and  $-3x - 5 = -8$
  - (d)  $3x + 5 = 8$  and  $-3x - 5 = 8$
  - (e) We do not need to write two equations to solve this problem.
3. Solve  $|3 - 4x| > 9$ .
  - (a)  $(-\infty, -\frac{3}{2}) \cup (3, \infty)$
  - (b)  $(-\infty, 3) \cup (-\frac{3}{2}, \infty)$
  - (c)  $(-\infty, -\frac{3}{2}) \cup (-\infty, 3)$
  - (d)  $(-\infty, -3)$