

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) $(-\infty, -3)$