

Algebra 3 Assignment # 4

Graph each and state domain and range

(1) $y = |2x|$

(2) $y = |2x - 1|$

(3) $y = |3 - 2x|$

(4) $y = \left| \frac{1}{2}x + 4 \right|$

(5) $y = \begin{cases} 3x & \text{if } -1 \leq x \leq 1 \\ -x & \text{if } 1 < x \end{cases}$

(6) $y = \begin{cases} -2x + 3 & \text{if } x < 2 \\ x + 1 & \text{if } x > 2 \end{cases}$

(7) $y = \begin{cases} x & \text{if } -2 < x \leq 0 \\ 2x & \text{if } 0 < x \leq 2 \\ -x + 3 & \text{if } 2 < x \leq 3 \end{cases}$

Answers: See graphs on Solved Sheets

1. vertex(0,0); domain = IIR; Range $y \geq 0$

2. vertex(1/2, 0); domain = IIR; Range $y \geq 0$

3. vertex (3/2,0); domain =IIR; Range $y \geq 0$

4. vertex (-8,0); domain IIR; Range $y \geq 0$

5. Domain $x \geq -1$; Range $y \leq 3$

6. Domain $x \neq 2$; Range $y > -1$

7. Domain $-2 < x \leq 3$; Range $-2 < y \leq 4$