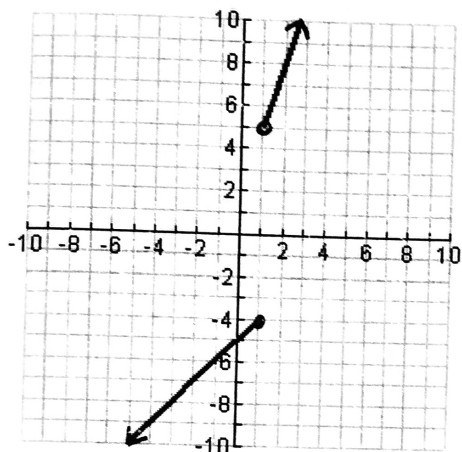


AFM  
Domain and Range of Piecewise Functions

Name: \_\_\_\_\_  
Date: \_\_\_\_\_ Period: \_\_\_\_\_

State the domain and range of each function. For what values in the domain are the functions is increasing/decreasing?

1)



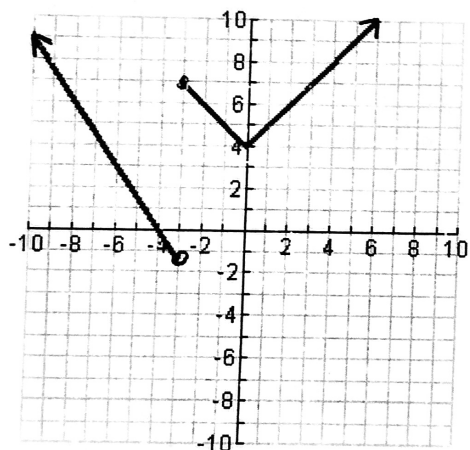
Domain:  $x = \mathbb{R}$

Range:  $y \leq -4 \cup y > 5$

Increasing:  $x > 1$

Decreasing:  $x < 1$

2)



Domain:  $x = \mathbb{R}$

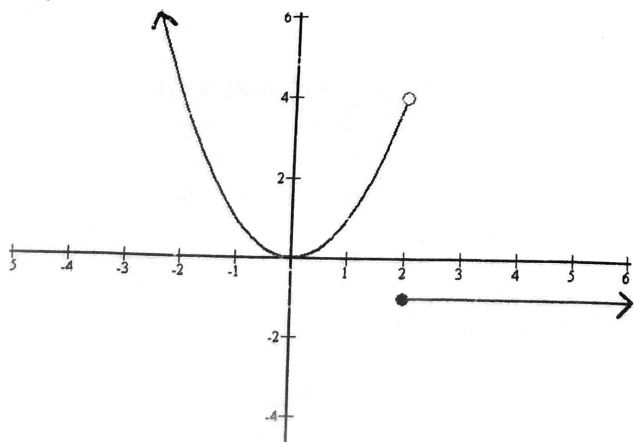
Range:  $y > -1$

Increasing:  $x > 0$  or  $0 < x < \infty$

Decreasing:  $x < 0$  or  $x < -3 \cup -3 < x < 0$

$-\infty < x < 0$  or  $-\infty < x < -3 \cup -3 < x < 0$

3)



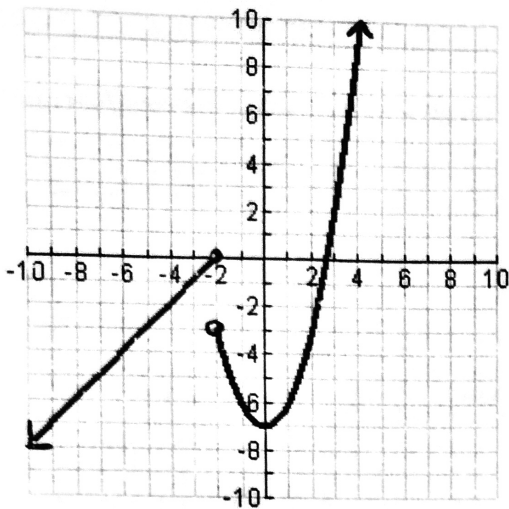
Domain:  $x = \mathbb{R}$

Range:  $y = 1 \cup y \geq 0$

Increasing:  $0 < x < 2$

Decreasing:  $x < 0$  or  $-\infty < x < 0$

4)



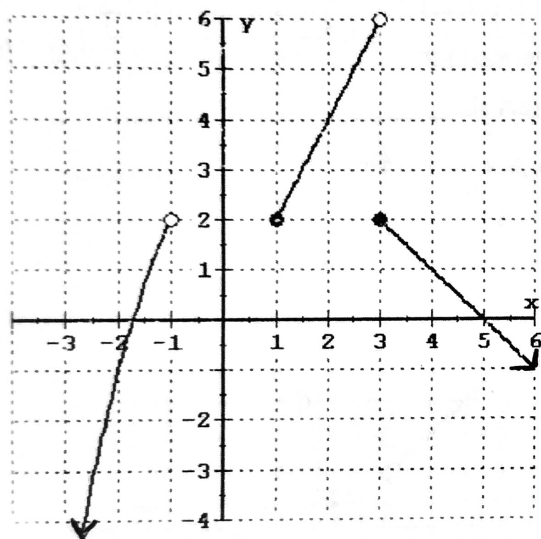
Domain:  $x = \mathbb{R}$

Range:  $y = \mathbb{R}$

Increasing:  $x < -2 \cup x > 0$  or  $-\infty < x < -2 \cup 0 < x < \infty$

Decreasing:  $-2 < x < 0$

5)



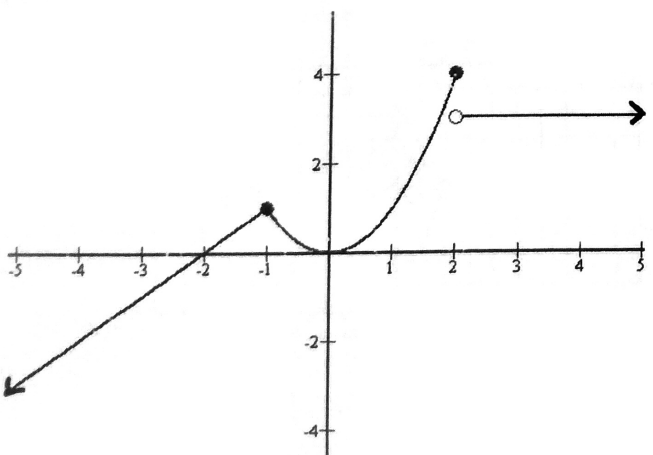
Domain:  $x < -1 \cup -1 < x < 3 \cup x > 3$

Range:  $y < 6$

Increasing:  $x < -1 \cup -1 < x < 3$  or  $-\infty < x < -1 \cup -1 < x < 3$

Decreasing:  $x > 3$  or  $3 < x < \infty$

6)



Domain:  $x = \mathbb{R}$  or  $-\infty < x < 2 \cup 2 < x < \infty$

Range:  $y \leq 4$  or  $-\infty < y < 4$

Increasing:  $x < -1 \cup 0 < x < 2$  or  $-\infty < x < -1 \cup 0 < x < 2$

Decreasing:  $-1 < x < 0$