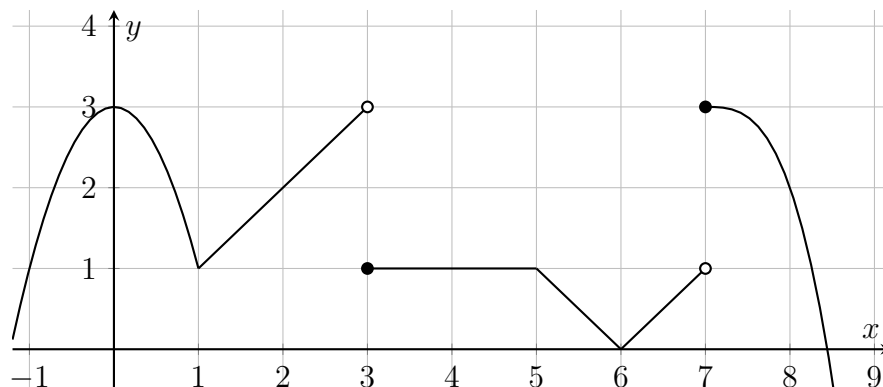


Name: \_\_\_\_\_ Academic Integrity Signature: \_\_\_\_\_

*I have abided by the UNCG Academic Integrity Policy.*

**Note:** Correct numerical answers without justification will receive little or no credit.

1. The graph of  $y = f(x)$  is given below.



- (a) (8 points) Compute the following, or write **U** if it is undefined. Read carefully to distinguish between  $f$  and  $f'$ .

$$\lim_{x \rightarrow 7^+} f(x) = 3 \qquad \lim_{x \rightarrow 7^-} f(x) = 1 \qquad \lim_{x \rightarrow 2} f(x) = 2 \qquad \lim_{x \rightarrow 6} f(x) = 0$$

$$f(1) = 1 \qquad f(2) = 2 \qquad f'(1) = U \qquad f'(2) = 1$$

- (b) (2 points) Compute the average rate of change of  $f$  on  $[0, 2]$ .

**Solution:** By definition, we have  $\frac{\Delta y}{\Delta x} = \frac{f(2) - f(0)}{2 - 0}$ . We compute  $f(2) = 2$  and  $f(0) = 3$ . It follows that the average rate of change is  $\frac{\Delta y}{\Delta x} = \frac{2 - 3}{2 - 0} = -\frac{1}{2}$ .

2. (1 point (bonus)) Whose birthday is it today? Hint: Last year, my son's birthday fell on Thanksgiving.

**Solution:** My oldest son

3. (1 point (bonus)) What will you eat on November 28, 2013?

**Solution:** Turkey, ham, stuffing, rolls, mashed potato, glazed carrots, ...