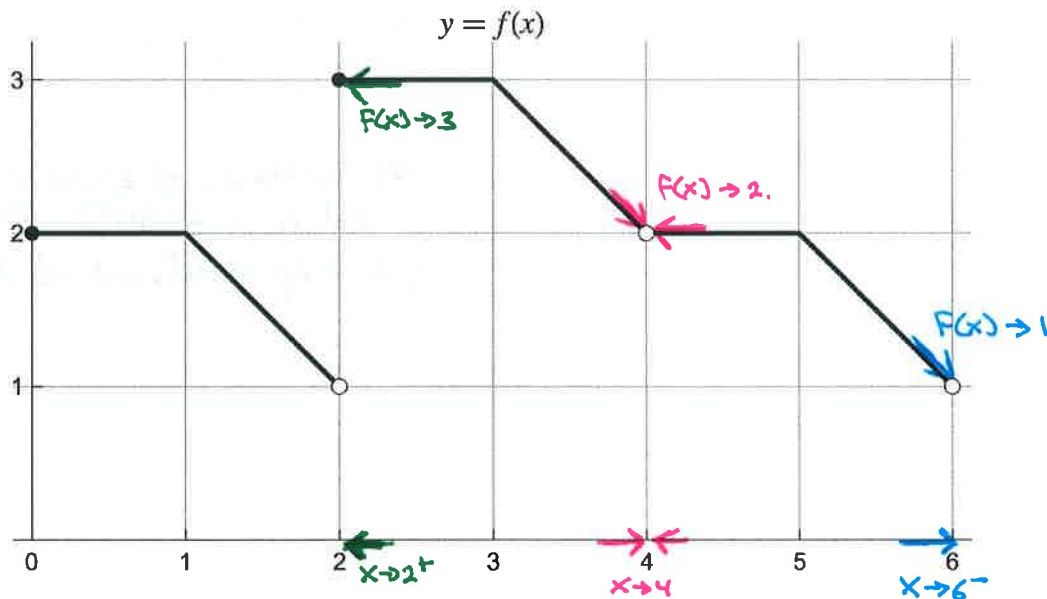


This is an open-book, open-notes quiz, and you may take as much time as you like. However, work alone; tutors, other students, internet, and so on are off limits. Write your answers on this quiz sheet and have it ready to turn in at the beginning of class on Friday October 7.



1. Graph reading: Read each of the following values from the graph of  $f(x)$  above. If the limit or function value is undefined, or does not exist, just say so.

- a.  $f(4)$  *undefined.*
- b.  $f(2) = 3$
- c.  $\lim_{x \rightarrow 4} f(x) = 2.$
- d.  $\lim_{x \rightarrow 2^+} f(x) = 3$
- e.  $\lim_{x \rightarrow 6^-} f(x) = 1$
- f.  $\lim_{x \rightarrow 2} f(x)$  *does not exist.*

2. True/False I. Refer to the graph of the function  $f(x)$  above to answer these.

- T a.  $f$  is continuous at 3.
- F b.  $f$  is continuous on the interval  $(1, 3)$ . *no; f is discontinuous at one point ( $x=2$ ) in the interval.*
- F c.  $f$  has a removable discontinuity at  $x = 2$   *$\lim_{x \rightarrow 2} f(x)$  doesn't exist, so  $x=2$  is a nonremovable discontinuity.*

(Go on to #3 on the back)

3. True/False II. Answer the following questions **without technology or graphing**.

T a. The function  $x^{13} - 291x - 17$  is continuous on  $(-\infty, +\infty)$  *it's a polynomial.*

F b. The function  $\frac{x^2 + 1}{x^2 - 1}$  is continuous everywhere. *it's undefined (hence, not continuous) at  $x=1$  and  $x=-1$ .*

T c. The function  $\frac{4}{x^2 - 16}$  is continuous at  $x = 10$ . *it's continuous everywhere it's defined, and it is defined at  $x=10$ . (it's only undefined at  $x=4$  and  $x=-4$ ).*