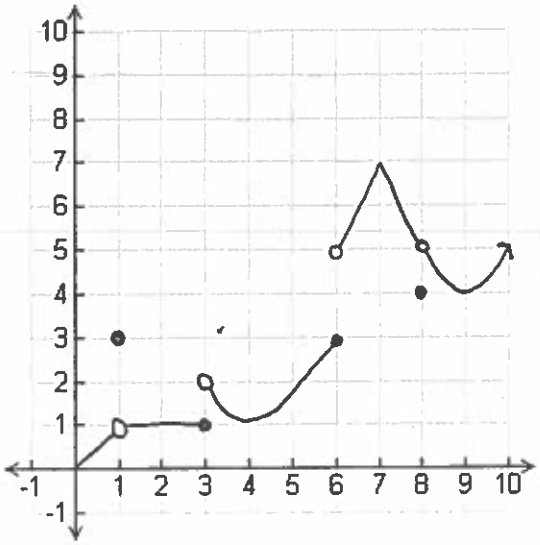
Quiz (10 points)

The following quiz is due Tuesday, January 20, 2015 at the beginning of your drill. You may use your brain, notes, book, other humans and any pet of your choice. **Your solutions must be *on a separate sheet of paper, in order, stapled, de-fringed, and legible* with *your name in the top right corner on the first page.*** If you **fail to meet any of these requirements** you **WILL RECEIVE A ZERO.** Each question is worth one point and is all or nothing.

Determine the following for the given graph.



1. $f(8)$
2. $\lim_{x\to 3^-} f(x)$
3. $\lim_{x\to 1} f(x)$
4. $\lim_{x\to 6^+} f(x)$
5. $\lim_{x\to 8} f(x)$

Make a table of slopes of secant lines and make a conjecture about the slope of the tangent line at the indicated value for the following and write it as a limit:

6. $f(x)=x^3-x^2$ at $x=1$

7. $f(x)=-4.9x^2+21x+14$ at $x=3$

8. Given

x	3.1	2.99	3.01	2.999	3.001	2.9
f(x)	27.2	26.98	27.02	26.998	27.002	26.8

Evaluate the following using the left hand and right hand limits.

$$\lim_{x\to 3} f(x)$$

9. and 10. Sketch the graphs of two possible functions such that:

- $f(2)=4$
- $f(1)=0$
- $\lim_{x\to 2^-} f(x)=-3$
- $\lim_{x\to 2^+} f(x)=5$