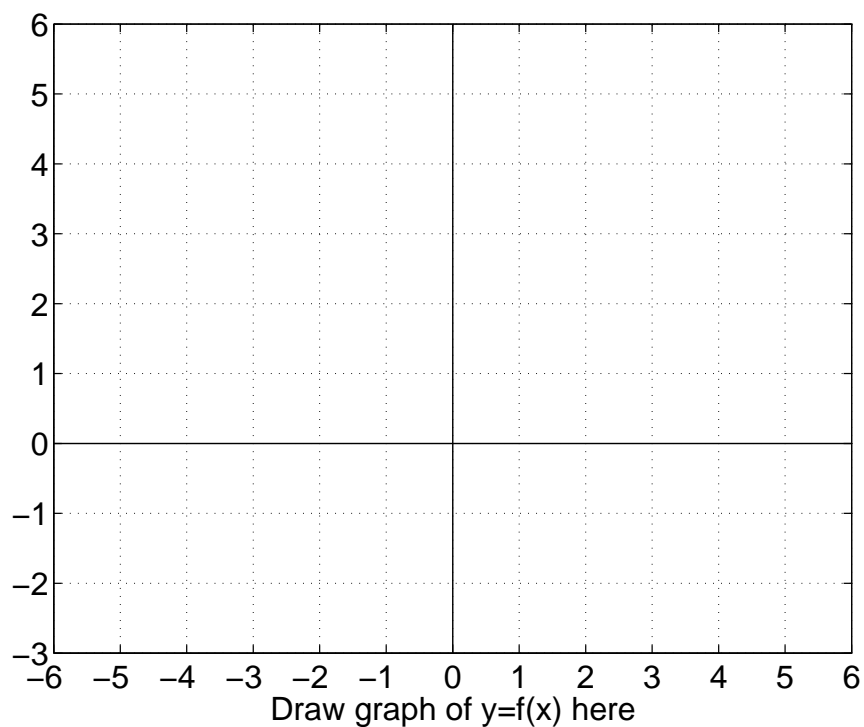


8. (8 points) On the set of axes provided, draw the graph of a smooth function f such that this function has all of the following properties.

- (a) $f(3) = 2$
- (b) $f' < 0$ for $x < 0$
- (c) $f' > 0$ for $x > 0$
- (d) $f'' > 0$ for $x < 3$
- (e) $f'' < 0$ for $x > 3$
- (f) the graph of f does not pass through the origin



- (b) Is it possible that $f(x) = 0$ for some $x > 3$? Explain.