

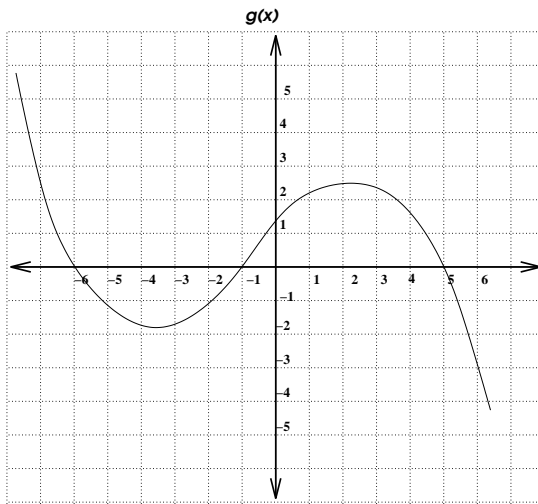
Week in Review # 4

Section 2.1

Things to know:

- Know how to compute derivatives at a point from a graph or chart.
 - Know the concept of the derivative at a point.
-

1. Use the graph of $g(x)$ to answer these questions.



(a) Where is $g(x)$ positive?

(b) Where is $g(x)$ negative?

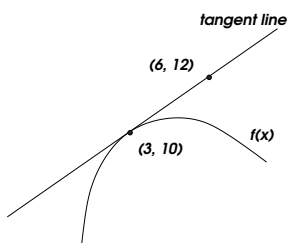
(c) Estimate $g'(3)$.

(d) Estimate $g'(2)$.

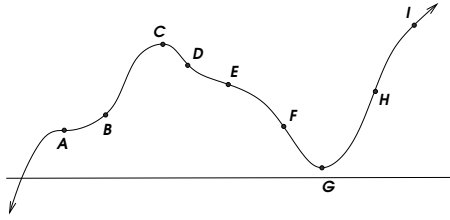
(e) Estimate $g'(-3)$.

2. Use the graph of $f(x)$ to fill in these blanks.

$$f(\underline{\hspace{2cm}}) = \underline{\hspace{2cm}} \qquad f'(\underline{\hspace{2cm}}) = \underline{\hspace{2cm}}$$



3. Use the points on the graph to answer these questions.



- (a) At which points is the derivative zero?
- (b) At which points is the derivative positive?
- (c) At which points is the derivative negative?
- (d) At which point is the derivative the largest?
- (e) At which point is the derivative the least?

4. Use the table to estimate the derivatives.

| | | | | | | | | | |
|------|---|-----|---|-----|----|----|----|----|----|
| x | 1 | 1.5 | 2 | 2.5 | 3 | 4 | 7 | 12 | 14 |
| f(x) | 1 | 3 | 6 | 8 | 12 | 14 | 25 | 32 | 42 |

(a) $f'(2) =$

(b) $f'(1) =$

(c) $f'(7) =$

(d) $f'(13) =$

5. Estimate the derivative for $f(x) = x^x$ at $x = 2$ and at $x = 5$