

Math 1314  
Homework 6

Enter your answers in the EMCF titled “Homework 6” at casa.uh.edu before the due date/time. In the problem numbers given below, 3.2.18 refers to Chapter 3, Section 2, Problem 18. The problems can be found in the online text.

**1. Problem 3.1.10, find  $f(x+h)$ .**

- A.  $9x^2 + 18xh + 9h^2 - 5x - 5h + 2$
- B.  $9x^2 + 9h^2 - 5x - 5h + 2$
- C.  $9x^2 + 2xh + h^2 - 5x - h + 2$
- D.  $9x^2 + 9h^2 - 5x + 5h + 2$
- E. Not listed

**2. Problem 3.1.10, find  $f(x+h) - f(x)$ .**

- A.  $9h^2 + 2xh - 5h$
- B.  $9h^2 + 2xh + 5h$
- C.  $9h^2 + 18xh - 5h$
- D.  $9h^2 - 5h$
- E.  $9h^2 + 5h$

**3. Problem 3.1.10, form the difference quotient and simplify.**

- A.  $9h - 5$
- B.  $9h + 5$
- C.  $9h + 2x - 5$
- D.  $9h + 2x + 5$
- E.  $9h + 18x - 5$

**4. Problem 3.1.10, find  $f'(x)$**

- A.  $2x - 5$
- B.  $18x - 3$
- C.  $18x + 5$
- D.  $18x - 5$
- E.  $9x - 5$

**5. Problem 3.1.10, part B**

- A. 13
- B. 31
- C. 41
- D. -1
- E. 33

**6. Problem 3.1.26, part A. Find the average rate of change on the interval [2, 3].**

- A. 1
- B. 6
- C. 8
- D. 2
- E. 14

**7. Problem 3.1.26, part B**

- A. 9
- B. 1
- C. -1
- D. 1.5
- E. -3

**8. Problem 2.5.30, part B**

- A. -48 feet per second
- B. 48 feet per second
- C. -96 feet per second
- D. 56 feet per second

**9. Problem 3.2.18, part A**

- A.  $f'(x) = 8x^2 + 1$
- B.  $f'(x) = 15x^2 + x$
- C.  $f'(x) = 15x^2$
- D.  $f'(x) = 8x^2 + x$
- E.  $f'(x) = 15x^2 + 1$

**10. Problem 3.2.32, part B**

- A. 12
- B. 8
- C. 0
- D. 1
- E.  $\frac{25}{6}$