Math 1314
Homework 12

Enter your answers in the EMCF titled "Homework 12" at casa.uh.edu before the due date/time. In the problem numbers given below, Problem 4.6 10 refers to Chapter 4, Section 6, Problem 10. The problems can be found in the online text.

1. Problem 4.6.10. Find the domain.

A. $(-3, 0.25)$ B. $(-24.2371, \infty)$ C. $[-24.2371, \infty)$
D. $(-\infty, \infty)$ E. None of the above

2. Problem 4.6.10. Find the *x* intercept(s).

A. $(-3,0)$ and $(0.25,0)$
B. $(-3,0)$, $(-2,0)$, $(-1.5,0)$ and $(0.25,0)$
C. $(-3,0)$, $(-2,0)$, $(0.25,0)$ and $(1.5,0)$
D. $(-0.25,0)$, $(1.5,0)$, $(2,0)$ and $(3,0)$
E. None of the above

3. Problem 4.6.10. Find the *y* intercept(s).

A. $(-18,0)$
B. $(0,-18)$ and $(0,18)$
C. $(0,0)$ and $(0,-18)$
D. $(0,-18)$
E. None of the above

4. Problem 4.6.10. Find any asymptotes.

A. There are no asymptotes
B. $y = -18$
C. $y = 4$
D. $x = 0,\ y = 0$
E. None of the above

5. Problem 4.6.10. Find any critical numbers.

A. 1.2517; 6.0726; 24.2371
B. $-2.6407; -1.7409; -0.3059$
C. $-24.2371; -6.0726;$ 1.2517
D. $-2.4607; -1.7049; -0.3509$
E. None of the above

6. Problem 4.6.10. Find intervals on which the function is increasing and intervals on which the function is decreasing.

A. increasing on $(-\infty,-2.2424)\cup(-0.8826,\infty)$ decreasing on $(-2.2424,-0.8826)$
B. increasing on $(-2.2424,-0.8826)$ decreasing on $(-\infty,-2.2424)\cup(-0.8826,\infty)$
C. increasing on $(-2.6407,-1.7409)\cup(-0.3059,\infty)$, decreasing on $(-\infty,-2.6407)\cup(-1.7409,-0.3059)$
D. increasing on $(-\infty,-2.6407)\cup(-1.7409,-0.3059)$, decreasing on $(-2.6407,-1.7409)\cup(-0.3059,\infty)$
E. increasing on $(-\infty,\infty)$
F. None of the above

7. Problem 4.6.10. Find any relative extrema.

A. relative maximum at $(-1.7409,\ 0)$, relative minimum at $(-2.6407, 0)$ and $(-0.3059, 0)$
B. relative maxima at $(-2.6407,-6.0726)$ and $(-0.3059,-24.2371)$, relative minimum at $(-1.7409,\ 1.2517)$
C. relative maximum at $(-1.7409,\ 1.2517)$, relative minima at $(-2.6407,-6.0726)$ and $(-0.3059,-24.2371)$
D. relative maximum at $(-2.2424,-2.7184)$, relative minimum$(-0.8826,\ -13.2356)$
E. relative maximum at $(-2.2424, 0)$, relative minimum$(-0.8826,\ 0)$
F. None of the above

8. Problem 4.6.10. Find all values of x for which $f''(x) = 0$.

A. $-2.6407, -0.1.7409, -0.3059$
B. $-2.2442, -0.8286$
C. $-13.2356, -2.7184$
D. $-2.2424, -0.8826$
E. None of the above

9. Problem 4.6.10. State the intervals on which the function is concave upward and the intervals on which the function is concave downward.

A. concave upward on $(-\infty, -2.2424) \cup (-0.8826, \infty)$, concave downward on $(-2.2424, -0.8826)$
B. concave upward on $(-2.2424, -0.8826)$, concave downward on $(-\infty, -2.2424) \cup (-0.8826, \infty)$
C. concave upward on $(-2.6407, -1.7409) \cup (-0.3059, \infty)$, concave downward on $(-\infty, -2.6407) \cup (-1.7409, -0.3059)$
D. concave upward on $(-\infty, -2.6407) \cup (-1.7409, -0.3059)$, concave downward $(-2.6407, -1.7409) \cup (-0.3059, \infty)$
E. none of the above

10. Problem 4.6.10. Find any inflection points.

A. $(-2.6407, 0)$, $(-1.7409, 0)$ and $(-0.3059, 0)$
B. $(-2.2424, -2.7182)$ and $(-0.8826, -13.2356)$
C. $(-2.2424, 0)$ and $(-0.8826, 0)$
D. $(-2.6407, -6.0726)$, $(-1.7409, 1.2517)$ and $(-0.3059, -24.2371)$
E. none of the above