

Math 1314
Homework 24

Enter your answers in the EMCF titled "Homework 24" at casa.uh.edu before the due date/time. In the problem numbers given below, Problem 6.3.8 refers to Chapter 6, Section 3, Problem 8. The problems can be found in the online text.

1. Problem 6.3.8, Part A

- A. (1, -1) B. (1, -2) C. (2, -1) D. (1, 1) E. Not listed

2. Problem 6.3.8, Part B

- A. relative minimum at the critical point
- B. relative maximum at the critical point
- C. saddle point at the critical point
- D. no result at the critical point
- E. not listed

3. Problem 6.3.8, Part C

- A. relative maximum value is 1
- B. relative minimum value is 0
- C. relative minimum value is 1
- D. relative maximum value is 0
- E. there are no relative extrema or the test failed at the critical point
- F. not listed.

4. Problem 6.3.12, Part A

- A. (3, 3) only B. (1, 1) only C. (1, 1) and (0, 0)
D. (-3, -3) and (0, 0) E. (3, 3) and (0, 0) F. not listed

5. Problem 6.3.12, Part B. Which statement is true?

- A. The critical points generate one relative maximum and one relative minimum.
- B. The critical points generate one relative minimum and one saddle point.
- C. The critical points generate one relative minimum.
- D. The critical points generate one relative maximum and one saddle point.
- E. The second derivative test was inconclusive about all critical points.
- F. None of the statements is true.

6. Problem 6.3.14, Part A

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|---------------------------|---------------------------|
| A. $(0, 0)$ and $(9, -3)$ | B. $(0, 0)$ and $(-3, 9)$ |
| C. $(0, 0)$ and $(9, 3)$ | D. $(0, 0)$ and $(3, 9)$ |
| E. Not listed | |

7. Problem 6.3.14, Part B, classify the critical point at $(0, 0)$

- A. the test fails at $(0, 0)$
- B. relative maximum
- C. relative minimum
- D. saddle point
- E. not listed

8. Problem 6.3.26, how many of each should be produced and sold?

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|---------------------------------|---------------------------------|
| A. 180 Product A, 137 Product B | B. 137 Product A, 180 Product B |
| C. 174 Product A, 131 Product B | D. 131 Product A, 174 Product B |
| E. not listed | |

9. Problem 6.3.26. What is the value for D?

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|-------|-------|---------------|
| A. 24 | B. 8 | C. 40 |
| D. -8 | E. 18 | F. not listed |

10. Problem 6.3.26, what is the maximum profit?

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|------------|---------------|------------|
| A. \$36360 | B. \$20829 | C. \$20793 |
| D. \$41880 | E. not listed | |