

Do not remove this answer page — you will return the whole exam. You will be allowed two hours to complete this test. No books or notes may be used. You may use a graphing calculator during the exam, but NO calculator with a Computer Algebra System (CAS) or a QWERTY keyboard is permitted. Absolutely no cell phone use during the exam is allowed.

The exam consists of 15 multiple choice questions. Record your answers on this page by filling in the box corresponding to the correct answer. For example, if (b) is correct, you must write

a b c d e

Do not circle answers on this page, but please do circle the letter of each correct response in the body of the exam. It is your responsibility to make it CLEAR which response has been chosen. You will not get credit unless the correct answer has been marked on both this page and in the body of the exam.

GOOD LUCK!

1. a b c d e

9. a b c d e

2. a b c d e

10. a b c d e

3. a b c d e

11. a b c d e

4. a b c d e

12. a b c d e

5. a b c d e

13. a b c d e

6. a b c d e

14. a b c d e

7. a b c d e

15. a b c d e

8. a b c d e

For grading use:

| | |
|---------------------------------------|-------------------------|
| number of correct problems | (out of 15) |
| Total | (out of 100 pts) |

Please make sure to list the correct section number on the front page of your exam.
In case you forgot your section number, consult the following table:

| Section # | Instructor | Lectures |
|-----------|------------------------|---|
| 001 | M. Shaw | MWF 12:00 pm - 12:50 pm, CP 153 |
| 002 | T. Chapman | MWF 2:00 pm - 2:50 pm, CP 139 |
| 003 | P. Koester | TR 12:30 pm - 1:45 pm, CP 153 |
| 004 | M. Shaw | MWF 9:00 am- 9:50 am, BS 116 |
| 005 | P. Koester D. Moore | MWF 1:00 pm - 1:50 pm, CB 122 T 11:00 am - 12:15, CB 303 |
| 006 | P. Koester J. Polly | MWF 1:00 pm - 1:50 pm, CB 122 R 11:00 am - 12:15, DH 301 |
| 007 | P. Koester D. Moore | MWF 1:00 pm - 1:50 pm, CB 122 T 9:30 am - 10:45, CB 243 |
| 008 | P. Koester J. Polly | MWF 1:00 pm - 1:50 pm, CB 122 R 9:30 am - 10:45, CB 243 |
| 009 | D. Leep A. Barra | MWF 10:00 am - 10:50 am, CP 320 T 1:00 pm - 2:15, CP 397 |
| 010 | D. Leep A. Barra | MWF 10:00 am - 10:50 am, CP 320 R 1:00 pm - 2:15, CB 304 |
| 011 | D. Leep A. Barra | MWF 10:00 am - 10:50 am, CP 320 T 2:30 pm - 3:45, CP 246 |
| 012 | D. Leep A. Barra | MWF 10:00 am - 10:50 am, CP 320 R 2:30 pm - 3:45, CP 235 |
| 013 | A. Corso | MWF 12:00 pm - 12:50 pm, CB 110 |
| 401 | D. Little | TR 6:00 pm-7:15 pm, CB 339 |
| 402 | D. Little | TR 7:30 pm-8:45 pm, CB 339 |

Multiple Choice Questions

Show all your work on the page where the question appears.
Clearly mark your answer both on the cover page on this exam
and in the corresponding questions that follow.

1. $f(x)$ has a single inflection point whose x coordinate is positive. Find the x coordinate of this inflection point.

$$f(x) = x^4 - 30x^2 + 17x - 13$$

Possibilities:

- (a) $\sqrt{3}$
 - (b) $\sqrt{5}$
 - (c) $\sqrt{7}$
 - (d) 7
 - (e) 5
-

2. Find the average rate of change of the function $g(t) = t^2 - 3t + 4$ on the interval $[2, 4]$

Possibilities:

- (a) 6
 - (b) 8
 - (c) 4
 - (d) 10
 - (e) 3
-

3. A ball is thrown downward from the top of Patterson Office Tower. The height of the ball (in feet) t seconds after the ball is thrown is given by

$$h(t) = -16t^2 - 15t + 240$$

Find the instantaneous speed (in feet per second) of the ball after two seconds. (Note: Your answer should be a positive number since we are asking for *speed*, not *velocity*)

Possibilities:

- (a) 76 feet per second
 - (b) 74 feet per second
 - (c) 70 feet per second
 - (d) 72 feet per second
 - (e) 79 feet per second
-