

THE UNIVERSITY OF AKRON
Theoretical and Applied Mathematics

Calculus I

Test 1

Name: _____

SID: _____

D. P. Story, Spring 2017

Exam Record

Page 1 _____ / 43 pts

Page 2 _____ / 42 pts

Page 3 _____ / 47 pts (12 pts + 35 pts)

Page 4 _____ / 15 pts

Total: _____ / 147 pts

Grade: _____

Part I. (97 points) Solve each of the problems without error. If you make an error, points will be subtracted from your total score.

- (5^{pts}) 1. This is an example of a objective question, the student fills in his/her response in the space below.
- (5^{pts}) 2. An example of a fill-in question: It is well known that _____ and _____ are jointly credited as the founders of modern calculus.
- (2^{pts}_{ea.}) 3. *True* or *False*. No justification needed.
- (a) _____ If triangles have 4 sides, then all monkeys are green. Now is the time for all good men to come to the aid of their country.
- (b) _____ $1 + 1 = 3$ iff $\sqrt{2}$ is a rational number. Now is the time for all good men to come to the aid of their country.
- (c) _____ $(\forall x)(\exists y)(xy > 1)$ (x, y real numbers). Now is the time for all good men to come to the aid of their country.
- (d) _____ $(\forall x)(\exists y)(\forall z)(z(x + y) > 0)$, (x, y , and z real numbers).
- (15^{pts}) 4. Here is an example of a auto calculate problem. It takes the optional argument ‘`[\auto]`’. You specify the points associated with each part using the `\PTs` command.
- (a) (10 pts) This a hard one!
- (b) (5 pts) This one is “half” as hard.
- (10^{pts}) 5. Select the correct answer for each of the following multiple choice. There is only one correct answer.
- (a) (6 pts) In what year did Columbus sail the ocean blue?
- (b) (4 pts) In what year did Columbus sail the ocean blue?
- | | | |
|------|------|------|
| 1490 | 1491 | 1490 |
| 1492 | 1493 | 1491 |
| | | 1492 |
| | | 1493 |

- (5^{pts}) 6. Which of the following best describes Augustin Cauchy?

He developed the Calculus while his University was closed for the plague.

Given credit for first using the functional notation $f(x)$.

He created the “bell-shaped curve” and first used the method of least squares.

He first formulated a precise definition of the limit and continuity of a function.

Gave a rigorous definition of the definite integral—an integral that now bears his name.

His notation for the derivative and the integral is used even to this day.

- (5^{pts}) 7. Which of the following are primary colors?

Blue

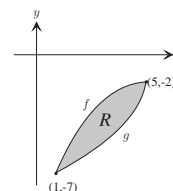
Green

Yellow

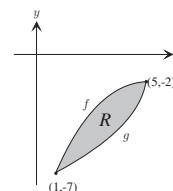
Orange

Red

- (5^{pts}) 8. This is a question worth 5 points.

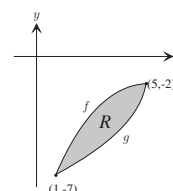


- (7^{pts}) 9. This is a question worth 7 points.



- (10^{pts}_{ea.}) 10. Answer each of the following questions.

(a) This is a question.



(b) This is a question.

(12^{pts}) **11.** Solve each of the following. Work on the back of page 2.

(a) This is a question. Be sure you don't make any error, I'm watching.

(c) This is a question.

(b) This is a question.

(d) This is a question.

Part II. (50 points) The following is a short review of previously mastered material.

(5^{pts}) **1.** This is a question.

(7^{pts}) **2.** This is a question.

(8^{pts}) **3.** This is a question.

(5^{pts}) **4.** This is a question.

(10^{pts}) **5.** This is a question.

(5^{pts}) **6.** This is a question.

(10^{pts}) **7.** This is a question.