

MA 114 Calculus II — Midterm Exam 2

NAME:

SECTION:

LAST FOUR DIGITS OF STUDENT ID:

**NOTES:**

1. This is a closed book exam. There are six (6) problems on seven (7) pages (including this cover page). Check and be sure that you have a complete exam.
2. You may use a graphing calculator that does not have symbolic manipulation capabilities. Any device capable of electronic communication (cell phone, pager, etc.) must be turned off and out of sight during the exam.
3. Each question is followed by space to write your answer. Please write your solutions neatly in the space below the question. Please erase or mark out any work that you do not want graded. If you need more space, use the backs of the exam pages.
4. Unless specified otherwise, **show your work**; answers without any justification will receive no credit.

Problem	Score	Points
1		15
2		10
3		15
4		15
5		22
6		22
Total		99 + 1 free = 100

Some useful trigonometric identities are

$$\begin{aligned} \sin 2\theta &= 2 \sin \theta \cos \theta \\ \cos^2 \theta &= \frac{1+\cos(2\theta)}{2} \\ \sin^2 \theta &= \frac{1-\cos(2\theta)}{2}, \\ \sin^2 \theta + \cos^2 \theta &= 1 \\ 1 + \tan^2 \theta &= \sec^2 \theta \\ 1 + \cot^2 \theta &= \csc^2 \theta. \end{aligned}$$