

Midterm I: Some problems for review

The exam will be taken at the Testing Center during 5/23 - 5/24. At the Testing Center, you go to Canvas and navigate to Midterm I in Week 4 module. You will be directed to WebAssign. It will ask you for an access code. The proctor will give you the code or enter the code for you. Although all questions are automatically graded, you have an option to show your work (by typing in a box) so that you can earn some extra credit even if your final answer is incorrect.

The material covered is Section 5.1 - 5.5, 6.1 - 6.4. It is a closed book exam. A scientific or graphing calculator is allowed. Phones are not allowed. You should review the homework problems, quizzes, and examples given in the lectures. It is always a good idea to study for the exam with someone. Some problems to practice:

- 1) Find the coordinates (x, y) of the terminal point $t = 14\pi/3, 5\pi/4, 5\pi/6$ on the unit circle.
- 2) Find the terminal point $t \in [7\pi/2, 11\pi/2]$ that has coordinates $(x, y) = (-1/2, \sqrt{3}/2)$.
- 3) Find the reference number to $t = -13\pi/3$.
- 4) Find $\sin, \cos, \tan, \cot, \sec, \csc$ of $t = -13\pi/6$.
- 5) Given $\cos t = 1/3$ and that t is in Quadrant IV, find $\cot t$.
- 6) Find the amplitude, period, and horizontal shift (phase shift) of the function $f(x) = 2 \cos(2x+5)$.
- 7) Find the period of the function $f(x) = -2 \tan(4x + 3)$.
- 8) Convert the angle measure in degree 15° and -75° into radian. Don't convert your results into decimal-point numbers.
- 9) A central angle θ in a circle of radius 5 m is subtended by an arc of length 8 m. Find the measure of θ in degree. What is the area of the corresponding sector?
- 10) Draw a right triangle with an acute angle θ satisfying $\cos \theta = 5/13$. Can you find $\tan \theta$?
- 11) Find the exact value of $\cos(\sin^{-1}(-2/3))$.