

Review Sheet for Midterm Exam (Sections 4.1–4.8)
Math 1060-5

Section 4.1

- Know how to convert between degrees and radians.
- Be able to sketch angles in standard position and determine in which quadrant the angle lies.
- Be able to find coterminal angles.
- Be able to find complementary and supplementary angles for a given angle.
- **Practice Problems:** 4.1 #7, 13, 19, 21, 47, 51

Section 4.2

- Given a point on the unit circle, be able to find all six trigonometric functions of the corresponding angle.
- Be able to find the point (x, y) on the unit circle that corresponds to common angles ($\theta = 0, \pi/6, \pi/4, \pi/3, \pi/2$, etc.)
- Know which trigonometric functions are odd and which are even, and be able to use this to help evaluate trigonometric functions.
- Be able to use the period of trigonometric functions to help calculate trigonometric functions.
- Know whether each trigonometric function is positive or negative in each quadrant.
- **Practice Problems:** 4.2 #1, 7, 23, 29, 37

Section 4.3

- Given a right triangle, be able to find all six trigonometric functions of an angle in the triangle.
- Know the Pythagorean identities.
- **Practice Problems:** 4.3 #1, 9, 17, 27, 29, 33, 37

Section 4.4

- Know how to calculate reference angles, and use them to evaluate trigonometric functions.
- Given the value of one trigonometric function and a constraint, be able to calculate the remaining trigonometric functions.
- **Practice Problems:** 4.4 #15, 19, 29, 41, 51, 53, 55

Section 4.5

- Know how to calculate the amplitude and period of sine and cosine functions.
- Be able to sketch the graph of sine and cosine functions, using the amplitude, period, and translations.
- **Practice Problems:** 4.5 #35, 37, 51, 53, 55

Section 4.6

- Be able to sketch the graphs of tangent, cosecant, secant, and cotangent functions, including information on the period and vertical asymptotes.
- **Practice Problems:** 4.6 #7, 11, 13, 19, 29

Section 4.7

- Know how to calculate inverse sine, inverse cosine, and inverse tangent functions, and be aware of their domains and ranges.
- Be able to evaluate the composition of trigonometric and inverse trigonometric functions.
- **Practice Problems:** 4.7 #1, 5, 7, 43-57 odds

Section 4.8

- Know how to apply trigonometric functions (and right triangles) to word problems.
- **Practice Problems:** 4.8 #15, 17, 21, 27, 37