MATH 150

Today

1. WeBWorK
2. 6.2: Trig identities

Goals:

1. Trig identities (Understand and be able to apply basic properties of trig functions)

Where is today's material used?

1. Physics (e.g., optics, mechanics)
2. Fourier series, based on trig functions, are used to model periodic behavior.

Warm-up:

6.1 #91

6.2 Trig Identities

1. Pythagorean identities ($\cos^2(\theta) + \sin^2(\theta) = 1, 1 + \tan^2(\theta) = \sec^2(\theta)$)
2. Symmetry identities ($\sin(-x) = -\sin(x), \cos(-x) = \cos(x), \tan(-x) = -\tan(x)$)
3. Sum Angle identities ($\sin(x+y) = \sin(x)\cos(y) + \cos(x)\sin(y), \cos(x+y) = \cos(x)\cos(y) - \sin(x)\sin(y)$)
4. Double-angle identities ($\sin(2x) = 2\sin(x)\cos(x), \cos(2x) = \cos^2(x) - \sin^2(x)$)
5. Examples. p. 422: 25, 32, 33, 37, 40, 41, 44, 45, 49, 50

Next Time

1. 6.3: Limits and derivatives of trig functions [25 min]
2. Homefun 17