I. Quiz #43. Returned "old" Quizzes, Tests, Most of the Notebooks.
   Passed out the "Wheel Chart." We'll soon have a quiz about that, too.

II. § 5.2: p. 413 - ODD/EVEN FUNCTIONS.

1. In general, a function whose graph is symmetric with respect to the y-axis is called "an even function."

   \[ y = x^2 \]

   \[ f(-x) = f(x) \quad \text{even.} \]

2. A function whose graph is symmetric with respect to the origin is called an "odd function."

   \[ y = x^3 \quad f(x) = x^3 \]

   \[ f(-x) = -f(x) \quad \text{odd} \]

3. \[ f(t) = \cos t \]
   \[ -1 \leq \cos t \leq 1 \]

   Claim \[ \cos t \] is an even function. \[ \sin t \] is odd.
Even / Odd Properties: (P. 413)

\[
\begin{align*}
\sin(-t) &= -\sin(t) & \cos(-t) &= \cos(t) & \tan(-t) &= -\tan(t) \\
csc(-t) &= -\csc(t) & \sec(-t) &= \sec(t) & \cot(-t) &= -\cot(t)
\end{align*}
\]

Function Identities (p. 414)

1. \(\csc(t) = \frac{1}{\sin(t)}\), \(\sec(t) = \frac{1}{\cos(t)}\), \(\cot(t) = \frac{1}{\tan(t)}\)

   \(\tan(t) = \frac{\sin(t)}{\cos(t)}\), \(\cot(t) = \frac{\cos(t)}{\sin(t)}\)

2. \(\sin^2(t) + \cos^2(t) = 1\) \(\sin^2(t) + \frac{\cos^2(t)}{\cos^2(t)} = \frac{1}{\cos^2(t)}\)

   Pythagorean Identity

   \(\sec^2(t) + 1 = \tan^2(t)\)

   Also: \(1 + \cot^2(t) = \csc^2(t)\)