Math 375, Spring 2026, Quiz 15, 3/11/26   **Name:**

A guitar string is plucked, and the position of one point on the string, measured in millimeters from its original position, is given by:

$$P(t) = 2.1\cos(1037t)$$

a) Find the frequency and period (to 3 significant digits) of this vibration.
b) Find the average speed of this bit of string.

a) frequency = 165 cycles per second
period = 0.00606 seconds or 6.06 milliseconds

b) half-cycle: 4.2 mm divided by 0.00303 seconds = 1386 mm/s or 1.4 meters per second