Question

Sam used his calculator to find cos 1.75. He wrote down cos 1.75 = .999 How could Sam recognize that his answer is incorrect?

Solution

Since pi is 3.14, 1.75 should be about half of pi so cos(1.75) should be in the ballpark of sqrt(2)/2 or .7 ish. Clearly his calculator is in degree mode since cos(1.75 degrees) is about .999.

Even more obvious, pi/2 < 1.75 < pi.
So on the unit circle it will be in the second quadrant.
So cos(1.75) is negative.