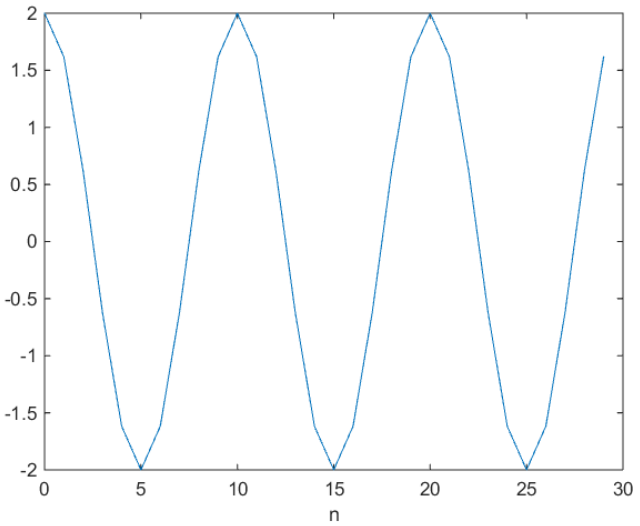
3.3 QUIZ QUESTION 1 (0.33/1 point)

Consider the discrete time cosine wave $A\cos(2\pi fn+\phi)$ shown below.



Find the value of A.

2 ✔ **Answer:** 2

2

Find the value of f.

2 ✖ **Answer:** 0.1

2

The phase can be expressed in terms of $\phi = k * \pi$. Find the value of k.

50 ✖ **Answer:** 0

50

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EXPLANATION

The amplitude is the peak value (2). The cosine wave oscillates once in 10 samples, thus f = 1/10. The waveform is a standard cosine that achieves its peak value at 0, thus the phase is zero.

You have used 3 of 3 submissions

3.3 QUIZ QUESTION 2 (1/1 point)

Suppose that a discrete time cosine with normalized frequency 0.2 is obtained by sampling a continuous time cosine of frequency $10Hz$ with sampling frequency F_s.

What was the value of F_s in Hertz?

50 ✔ **Answer:** 50

50

EXPLANATION

The normalized frequency of 0.2 indicates that the cosine oscillates once in five samples. Thus, the sampling frequency must be five times the frequency of the cosine.

Another way to see this is to note that the cosine oscillates once in 0.1 second. Since there are five samples in one period of the cosine, the sample period must be 0.02 seconds. The corresponding frequency is 50Hz.

You have used 2 of 3 submissions