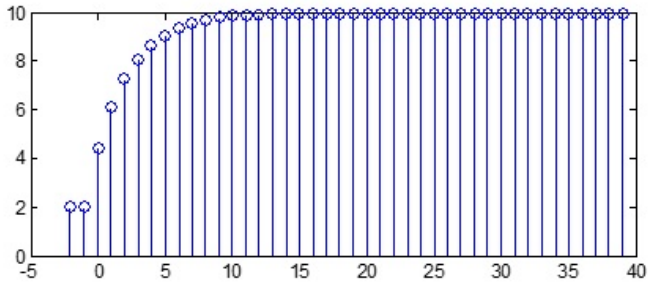
3.4 QUIZ QUESTION 1 (1/1 point)

The measured output of a channel is shown below.



This output can be approximated mathematically by the expression

$$s(n) = c + k(1 - a^{n+1})u(n).$$

Estimate the values of c and k .

Please key in the numerical value of your answers in the boxes provided below.

c=?

2

2

Answer: 2

k=?

8

8

Answer: 8

EXPLANATION

According to the diagram above, we have $c = 2$, $c + k = 10$, then $k = 8$.

Help

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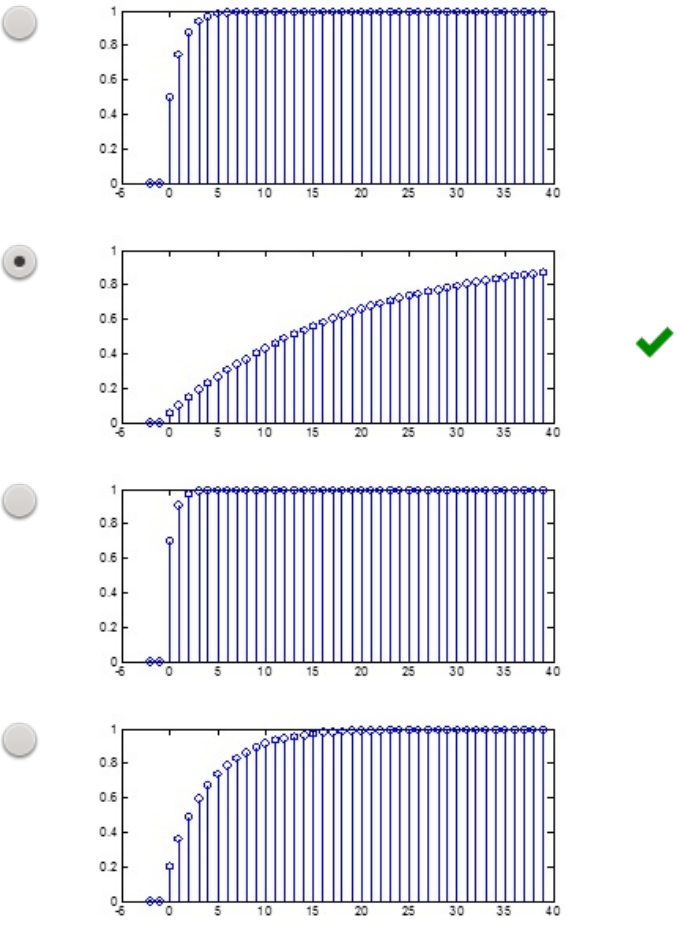
3.4 QUIZ QUESTION 2 (1/1 point)

The following four figures plot the step responses given by

$$s(n) = (1 - a^{n+1})u(n)$$

for different values of $a \in \{0.3, 0.5, 0.8, 0.95\}$. Which plot corresponds to $a = 0.95$?

Please select the correct answer.



EXPLANATION

The second diagram plots the step response with the value of a = 0.95. The higher the 'a' is, the slower the transition is.

Another way to see this is to check the value at $n = 0$. Since $s(0) = 1 - a$, if $a = 0.95$, then $s(0) = 0.05$.

Final Check | Save | Hide Answer | *You have used 1 of 2 submissions*

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