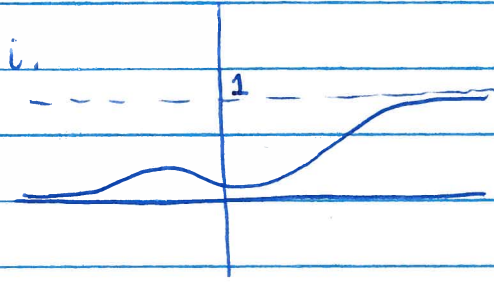


# QUIZ!

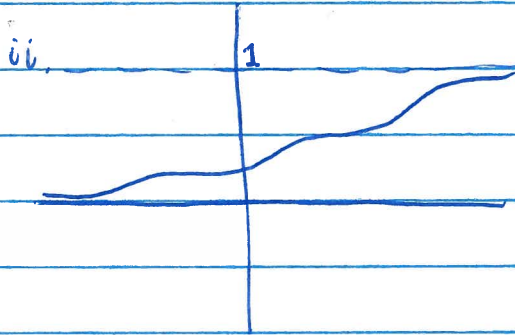
1. Which of the following graphs could be a ~~cumulative~~ cumulative distribution function (cdf)? If not, briefly explain WHY?!

Explain yourself



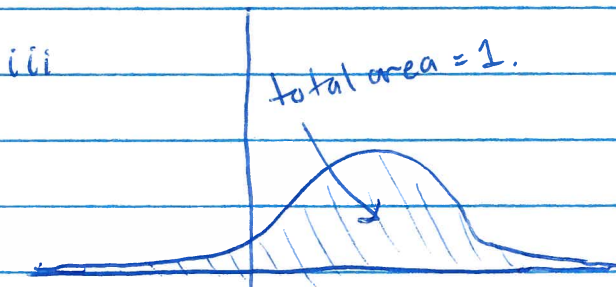
cdf

nope



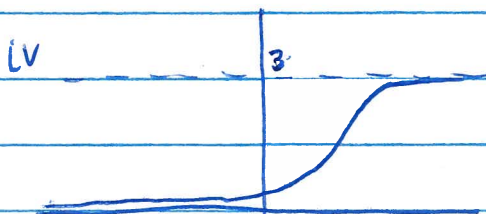
cdf

nope.



cdf

nah.



cdf

no way

2. a. Find the Taylor series for  $e^{-\frac{x^2}{2}}$  centered at  $x=0$ .  
Write your answer in sigma notation.

b. Find the degree 4 Taylor polynomial for the normal distribution pdf  
 $p(x) = \frac{1}{\sqrt{2\pi}\sigma} e^{-\frac{(x-\mu)^2}{2\sigma^2}}$  centered at  $x=\mu$ .

c. IQ scores follow a normal distribution with mean  $\mu=100$  and standard deviation  $\sigma=15$ . A person is considered "gifted" if their IQ is between 121 and 130.

i. Write a definite integral which represents the percent of the population which is "gifted".

ii. Use your answer from b. to estimate this integral.