There are two problems from the book and two additional problems labeled A, B.

Exercise 6.1abc (not part d)

Exercise 6.4 (about cancer survival)

For Problem A, suppose that a random variable X has CDF $F(x) = 1 - e^{-x^2/2}$ for $x \geq 0$ (and $F(x) = 0$ for $x < 0$). We're not going to use this distribution much in Math 240, but it does have applications, because it's the length of a two-dimensional standard normal vector. Anyway...

A.A What's the PDF?

A.B. Compute $P(X \geq 3)$ exactly.

For Problem B, consider $X \sim \text{Binom}(3, 1/2)$.

B.A. Draw the CDF.

B.B. Draw the PDF — which is the derivative of the CDF — at least where it's defined.