Here is the graph of a density function, $p(x)$.

Its equation is:

$p(x) = 0$ if $0 > x$

$p(x) = 2x$ if $1 \geq x \geq 0$

$p(x) = 0$ if $x > 1$

As you know, the formula for the cumulative distribution function for $p(x)$ is

$$P(t) = \int_{-\infty}^{t} p(x) \, dx,$$

so that $P''(t) = p(t)$.

A. Calculate $P(1) - P(0)$

B. Sketch a graph of $P$. 