$$F(x) = \begin{cases} c \cdot x^2 & 0 \le x \le 3 \\ 0 & x \le 0 \end{cases}$$

$$c = \frac{1}{3^2} = \frac{1}{9}$$

3)
$$P = 0.53$$

$$((0.53+F(2))/1/8)^{1/2}$$