WS-4

a) $\frac{1^2}{4} = \frac{1}{4}$

b) $0.5 \leq x < 1$

$(x \leq 1) - P(X \leq .5)$

$F(1) - F(.5)$

$= \frac{1}{4} - \frac{.5^2}{4} = \frac{.75}{4}$

c)

Find the median of the distribution of x

$F(u) = .5 = \frac{x^2}{4} = \sqrt{2}$

d) $E(x) \int_0^v f(x)\,dx \quad F'(x) = \frac{2x}{4}$ $\left(\frac{x}{2}\right)$

$E(x) \int_0^2 x^2\,dx \quad \int_0^2 x^3\,dx \quad 0 \leq x \leq 2$

b)

$\frac{1}{8}\left[x^4\right]_0^2$

$\frac{x}{4} + \frac{x}{4}\ln(u) - \frac{x}{4}\ln(x)$

$a(x)\ b(x) + b(x)\ a'(x)$

$\frac{1}{4}\ln(4)\ \frac{4}{x}$

$= \frac{\ln(4)}{x}$

$\frac{1}{2} + \frac{3}{32} + \left[4x - \frac{x^3}{3}\right]$

$f(x) = \frac{3}{32}\left(4 - \frac{3x^2}{3}\right) \quad -2 \le x \le 2$

1) if $x = 0 \quad -2 \le x \le 2$

(2) // $v^2 - 12 = 0$

$v^2 = 12$ ∝