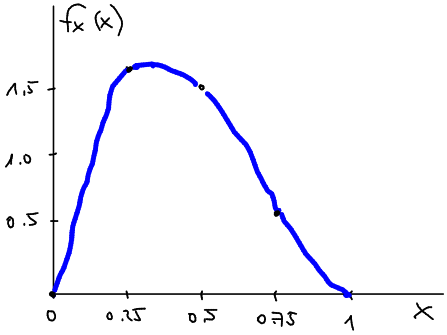
STATISTIKA 25.1.2012

2) $F_X(x) = 6x^2 - 8x^3 + 3x^4 \qquad 0 \le x \le 1$

$f_X(x) = \frac{dF_X}{dx} = 12x - 24x^2 + 12x^3$ ← GOSTOTA VERJETNOSTI



x	
0	0
0.25	1.6875
0.50	1.5
0.75	0.5625
1.00	0

$$E[X] = \int_{-\infty}^{\infty} x\, f_X(x)\,dx = \int_0^1 x\,(12x - 24x^2 + 12x^3)\,dx =$$

$$= \int_0^1 (12x^2 - 24x^3 + 12x^4)\,dx = 12\frac{x^3}{3} - 24\frac{x^4}{4} + 12\frac{x^5}{5}\Big|_0^1$$

$$= 4 - 6 + \frac{12}{5} = \frac{2}{5} = 0.4$$ ← PRIČAKOVANA VREDNOST E[X]