

6 Jun 2014

- 1.
- a) $2/13$
- b) $31/40$
- c) $Y = 500X$,

$$F_Y(y) = \begin{cases} 0, & y \leq 500 \\ \frac{(y/500)^2 - 1}{13}, & 500 < y < 1500 \\ -\frac{19}{13} + \frac{12}{13}(y/500) - \frac{(y/500)^2}{13}, & 1500 \leq y < 2000 \\ 1, & y \geq 2000 \end{cases}$$

- 3.
- a) $\mu = 1/\alpha, \sigma^2 = 1/\alpha^2$
- b) $M(s) = \alpha/(\alpha - s)$
- c) $M(s) = (\alpha/(\alpha - s))^n$
- d) $N(0,1)$ pelo TLC

- 4.
- a) independentes
- b) $E(Y|X = x) = 2$

25 Jun 2014

- 1.
- a) 0.99^{50}
- b) 1000
- 2.
- a) $6/\alpha^3, 24/\alpha^4$
- b) $\varphi(t) = \alpha/(\alpha - it)$
- c) $1 - e^{-n\alpha y}$
- 3.
- b) $[1/2, 1]$
- 4.
- a) 0, 0, 1, 1, $\sqrt{2}/2$
- b) $f_X(x) = e^{-x^2/2}/\sqrt{2\pi}, X \sim N(0, 1)$