Probabilitá e Statistica - 15 Giugno 2011

	C1	C2	C3	C4	E1	E2
F1	0.49180	Poisson 0.99337	81/100 o 0.81	5/24 o 0.09259	(a) tabella con $a = 2$ (b) $p = \frac{1}{5}$ (c) $\text{cov}[X, Y] = \frac{2}{75}$	(a) corretti entrambe (b) $\text{MSE}[\bar{X}_3] = \frac{1}{3}\sigma^2$ (c) $\text{MSE}[T] = \frac{11}{25}\sigma^2$ (d)$\bar{X}_3$ piú efficiente
F2	0.28814	Poisson 0.98168	49/64 o 0.76562	5/18 o 0.27777	(a) tabella con $a = 1$ (b) $p = \frac{2}{5}$ (c) $\text{cov}[X, Y] = -\frac{4}{75}$	(a) corretti entrambe (b) $\text{MSE}[\bar{X}_3] = \frac{1}{3}\sigma^2$ (c) $\text{MSE}[T] = \frac{11}{25}\sigma^2$ (d)$\bar{X}_3$ piú efficiente
F3	0.49931	Poisson 0.95029	16/25 o 0.64	5/6 o 0.83333	(a) tabella con $a = 1$ (b) $p = \frac{1}{5}$ (c) $\text{cov}[X, Y] = \frac{4}{75}$	(a) corretti entrambe (b) $\text{MSE}[\bar{X}_3] = \frac{1}{3}\sigma^2$ (c) $\text{MSE}[T] = \frac{11}{25}\sigma^2$ (d)$\bar{X}_3$ piú efficiente
F4	0.44520	Poisson 0.86466	9/16 o 0.5625	5/9 o 0.55555	(a) tabella con $a = 2$ (b) $p = \frac{2}{5}$ (c) $\text{cov}[X, Y] = -\frac{2}{75}$	(a) corretti entrambe (b) $\text{MSE}[\bar{X}_3] = \frac{1}{3}\sigma^2$ (c) $\text{MSE}[T] = \frac{9}{25}\sigma^2$ (d)$\bar{X}_3$ piú efficiente

Y \ X	0	1	f_Y
a	$\frac{p}{3}$	$\frac{2p}{3}$	p
3	$\frac{2p}{3}$	$1 - \frac{5p}{3}$	$1 - p$
f_X	p	$1 - p$	1