

Probabilità e Statistica - 25 Novembre 2008

	C1	C2	C3	C4	E1	E2
F1	0.04006	0.37096	9.22404	$\frac{25}{72}$	$f_{X,Y}(x,y) = \frac{2}{3}e^{-2y}I_{(0,3)}(x)I_{(0;+\infty)}(y)$ $P[X + Y \leq 3] = \frac{5 + e^{-6}}{6}$ $P[Y^2 > 1] = e^{-2}$ $E[XY] = \frac{3}{4}$ $\text{Cov}[3X - 2Y, 3X + 2Y] = \frac{23}{4}$	(a) $\frac{13}{18}$ (b) $\frac{9}{13}$ (c) $P(A) = P(B)$
F2	0.30854	0.37043	14.12016	$\frac{5}{32}$	$f_{X,Y}(x,y) = \frac{3}{4}e^{-3y}I_{(0,4)}(x)I_{(0;+\infty)}(y)$ $P[X + Y \leq 4] = \frac{11 + e^{-12}}{12}$ $P[Y^2 > 1] = e^{-3}$ $E[XY] = \frac{2}{3}$ $\text{Cov}[3X - 2Y, 3X + 2Y] = \frac{104}{9}$	(a) $\frac{11}{16}$ (b) $\frac{4}{11}$ (c) $P(A) < P(B)$
F3	0.01222	0.36101	35.0451	$\frac{13}{32}$	$f_{X,Y}(x,y) = \frac{5}{2}e^{-5y}I_{(0,2)}(x)I_{(0;+\infty)}(y)$ $P[X + Y \leq 2] = \frac{9 + e^{-10}}{10}$ $P[Y^2 > 1] = e^{-5}$ $E[XY] = \frac{1}{5}$ $\text{Cov}[3X - 2Y, 3X + 2Y] = \frac{71}{25}$	(a) $\frac{22}{27}$ (b) $\frac{9}{22}$ (c) $P(A) < P(B)$
F4	0.06681	0.36565	13.42152	$\frac{13}{72}$	$f_{X,Y}(x,y) = \frac{4}{5}e^{-4y}I_{(0,5)}(x)I_{(0;+\infty)}(y)$ $P[X + Y \leq 5] = \frac{19 + e^{-20}}{20}$ $P[Y^2 > 1] = e^{-4}$ $E[XY] = \frac{5}{8}$ $\text{Cov}[3X - 2Y, 3X + 2Y] = \frac{37}{2}$	(a) $\frac{27}{32}$ (b) $\frac{8}{9}$ (c) $P(A) > P(B)$