
- Page 512, the answer for Exercise 4.4-13 (the question is on page 154):

**4.4-13 (a)** \( f_X(x) = 4x(1-x^2), \quad 0 \leq x \leq 1; \quad f_Y(y) = 4y^3, \quad 0 \leq y \leq 1; \)

(b) \( \mu_X = 8/15; \quad \mu_Y = 4/5; \quad \sigma_X^2 = 11/225; \quad \sigma_Y^2 = 2/75; \)

Cov\((X, Y) = 4/225; \quad \rho = 2\sqrt{66}/33; \)

(c) \( y = 20/33 + (4/11)x. \)

should be

**4.4-13 (a)** \( f_X(x) = 2x, \quad 0 \leq x \leq 1; \quad f_Y(y) = 2(1-y), \quad 0 \leq y \leq 1; \)

(b) \( \mu_X = 2/3; \quad \mu_Y = 1/3; \quad \sigma_X^2 = 1/18; \quad \sigma_Y^2 = 1/18; \)

Cov\((X, Y) = 1/36; \quad \rho = 1/2; \)

(c) \( y = (1/2)x. \)
Page 147, lines 17 and 22: \( dy \) must be replaced by \( dy \, dx \). The two lines are included in the following:

The mean of \( X \) is

\[
\mu_X = E(X) = \int_0^1 \int_0^1 x \left( \frac{4}{3} \right) (1 - xy) \, dy \, dx = \int_0^1 x \left( \frac{4}{3} \right) \left( 1 - \frac{x}{2} \right) \, dx \\
= \left( \frac{4}{3} \right) \left( \frac{1}{2} - \frac{1}{6} \right) = \frac{4}{9}.
\]

Likewise, the mean of \( Y \) is

\[
\mu_Y = E(Y) = \frac{4}{9}.
\]

The variance of \( X \) is

\[
\text{Var}(X) = \sigma_X^2 = E(X^2) - [E(X)]^2 = \int_0^1 \int_0^1 x^2 \left( \frac{4}{3} \right) (1 - xy) \, dy \, dx - \left( \frac{4}{9} \right)^2 \\
= \int_0^1 x^2 \left( \frac{4}{3} \right) \left( 1 - \frac{x}{2} \right) \, dx - \frac{16}{81} \\
= \left( \frac{4}{3} \right) \left( \frac{1}{3} - \frac{1}{8} \right) - \frac{16}{81} = \frac{13}{162}.
\]

These should be

The mean of \( X \) is

\[
\mu_X = E(X) = \int_0^1 \int_0^1 x \left( \frac{4}{3} \right) (1 - xy) \, dy \, dx = \int_0^1 x \left( \frac{4}{3} \right) \left( 1 - \frac{x}{2} \right) \, dx \\
= \left( \frac{4}{3} \right) \left( \frac{1}{2} - \frac{1}{6} \right) = \frac{4}{9}.
\]

Likewise, the mean of \( Y \) is

\[
\mu_Y = E(Y) = \frac{4}{9}.
\]

The variance of \( X \) is

\[
\text{Var}(X) = \sigma_X^2 = E(X^2) - [E(X)]^2 = \int_0^1 \int_0^1 x^2 \left( \frac{4}{3} \right) (1 - xy) \, dy \, dx - \left( \frac{4}{9} \right)^2 \\
= \int_0^1 x^2 \left( \frac{4}{3} \right) \left( 1 - \frac{x}{2} \right) \, dx - \frac{16}{81} \\
= \left( \frac{4}{3} \right) \left( \frac{1}{3} - \frac{1}{8} \right) - \frac{16}{81} = \frac{13}{162}.
\]

- Page 513, the answer for **5.3-15** is not correct. This answer should be

**5.3-15** 0.3844.