# ✔ Congratulations! You passed!

**Grade received** 100%
**Latest Submission Grade** 100%
**To pass** 80% or higher

**Go to next item**

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**1.** Are X and Y independent? Where
$f(x,y) = \frac{1}{57}xy^6 e^{-y-x}$ where x>0, y>0

**1 / 1 point**

○ False

◉ True

✓ **Correct**
if f(x,y) = g(x)h(y) then X and Y are independent.

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**2.** The marginal distribution of X, where

f(x,y) = 4xy; x,y ∈ [0,1] is

**1 / 1 point**

◉ A function of x

○ A function of y

✓ **Correct**
Correct, marginalize out the variable y

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**3.** The correlation of X and Y equals 0.  Are X and Y independent?

**1 / 1 point**

◉ can't tell

○ yes

⊘ **Correct**

Correct, if X and Y are independent, corr(X,Y)=0, the converse is not necessarily true.