

# Quiz 3

⚠ This is a preview of the published version of the quiz

Started: Jan 8 at 1:37pm

## Quiz Instructions

This quiz must be taken in person during the set time in class. If you take the quiz at some other time or outside of the classroom, then you may not earn credit for your answers/work.

### Question 1

1 pts

#### (Objective 3a: Probability)

The airline industry defines an on-time flight as one that arrives within 15 minutes of its scheduled time. The following table shows the number of on-time and late flights leaving Philadelphia and arriving in Orlando during a recent time period by airline:

Airline	On-Time Flights	Late Flights
Southwest	240	70
American	260	140
Frontier	170	65

Answer all of the following questions, and round each of your answers to two decimal places:

(a) What is the probability that a randomly selected flight was from Southwest and was on time?

0.25

(b) What is the probability that a randomly selected flight was from Frontier or was on time?

0.78

(c) Given that the flight was late, what is the probability that it was from American?

0.51

(d) Given that the flight was from Southwest, what is the probability that it was late?

0.23

(Solutions in Excel file on Canvas)

## Question 2

1 pts

**(Objective 3b: Random Variables)**

(For this problem, round each answer to 4 decimal places. Do not round until you have the final answer.)

Consider store that sells primarily PCs. Each customer that comes in may buy one, none or several PCs. Let  $X$  denote the number of PCs a customer who comes into the store purchases. Consider the following probability distribution table for  $X$ :

$X_i$	0	1	2	3
$P(X = X_i)$	???	0.374	0.09	0.02

1. What is the value of the missing entry?

0.516

2. Find the expected value of  $X$ ,  $E(X)$ .

0.614

3. Find variance of  $X$ :  $Var(X)$ .

0.5370

4. Find the standard deviation of  $X$ ,  $\sigma_X$ .

0.7328

(Solutions in Excel file on Canvas)

Not saved

Submit Quiz