

Statistics XP 2015 - Quiz 2

NAME: _____

You have 25 minutes.

There are two questions, each part of each question is worth 2 points.

I pledge my honor that I have not violated the Honor Code during this examination.

SIGNATURE: _____

1 Question

The table below gives the joint distribution of X and Y .

		X	
		0	1
Y	0	.03	.21
	1	.27	.49

1.1

What is $P(X = 1, Y = 0)$?

1.2

What is $P(Y = 1)$?

1.3

What is $P(Y = 1 | X = 1)$?

1.4

Are X and Y independent?

1.5

Is X a Bernoulli random variable?

1.6

What is $E(X)$?

1.7

Which is bigger, $Var(X)$ or $Var(Y)$?

2 Question

Suppose $Z \sim N(0, 1)$ (Z is standard normal).

2.1

What is $P(Z > 0)$?

2.2

What is $P(-1 < Z < 1)$?

2.3

What is $P(Z < -1)$?

2.4

What is $P(Z > 2)$ (2 is the same as 1.96) ?

Suppose $X \sim N(10, 5^2)$

2.5

What is $P(X > 10)$?

2.6

What is $P(5 < X < 15)$?

2.7

What is $P(Z < 5)$?

2.8

What is $P(Z > 20)$?