

<u>Course</u> > <u>Final</u> > <u>Final Exam</u> > Final Exam

#### **Final Exam**

# Adapt 4

1/1 point (graded)

You recorded the number of hours that each of 1,000 light bulbs lasted before burning out. The data type of the hours variable is:

O Nominal			
Ordinal			
O Interval			
Ratio   ✓			

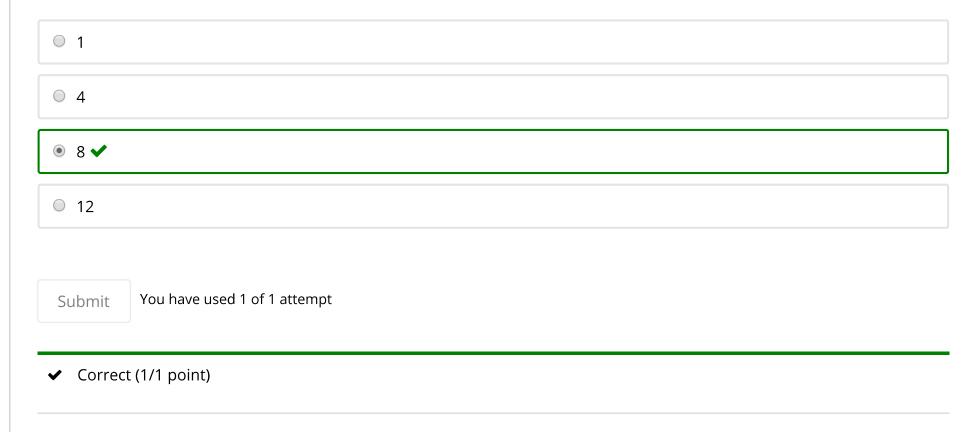
Submit

You have used 1 of 1 attempt

Adapt 17	
/1 point (gra Ising the da	ded) ata in Module 1_Quiz Data_Stocks.xlsx, answer the following question.
Vhich stock	exhibits the most skewness?
<ul><li>3M</li></ul>	
● GE ✔	
O IBM	
O Intel	
Submit	You have used 1 of 1 attempt
<b>✓</b> Correc	et (1/1 point)

Using the data in Module 1\_Quiz Data\_Stocks.xlsx, answer the following question.

How many of the 3M returns are outliers? Use the rule of thumb as described by Wayne. Do not create a box plot to determine the answer.



# Adapt 52

0/1 point (graded)

The data in Module 1\_Quiz Data\_BoxPlot.xlsx are monthly returns on 5 stocks. Use this data to create a box plot and then answer the following question.

Which stock exhibits the least variability? Base your response on the visualization.

O Dell
O INTC
○ MSFT
● NT 🗙
O PFE
Submit You have used 1 of 1 attempt
➤ Incorrect (0/1 point)

# Adapt 62

1/1 point (graded)

You are analyzing a spreadsheet showing the relationship between genre of movie (e.g., comedy, horror, drama, etc.), rating (e.g., G, PG, R), and revenue.

You want to graphically display this data. Which two graphics would work best for this purpose?

■ Histogram
Boxplot
Pareto chart
✓ Sunburst chart
✓ Tree map
Submit You have used 1 of 1 attempt
✓ Correct (1/1 point)

# Adapt 65

1/1 point (graded)

Using the data in Module 1\_Quiz Data\_Pareto.xlsx, create a Pareto Chart illustrating the complaints that your organization has received over the last 6 months, and then answer the following question.

Based on the Pareto chart, what is the cumulative frequency of the complaints that you would recommend that your organization focus on to drive increased customer satisfaction?

O 37%
● 70% ✔
O 79%
© 84%
Submit You have used 1 of 1 attempt
✓ Correct (1/1 point)
Adapt 72
1/1 point (graded) If we consider the toss of four coins as an experiment, how many equally likely outcomes does the sample space have?
O 4
○ 8

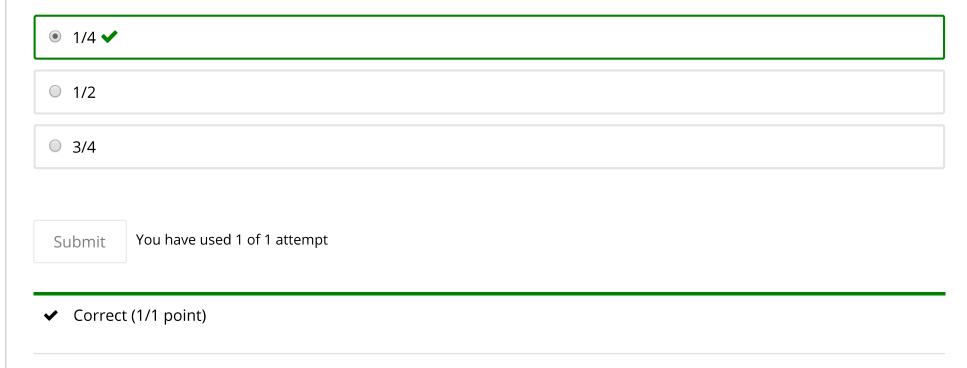
<b>20</b>	
Submit	You have used 1 of 1 attempt
✓ Corre	et (1/1 point)
dapt 75	
1 point (gra	
1 point (gra vo standa	ded)
1 point (gra vo standa O 3/36	ded)
1 point (gra vo standa 3/36  4/36	ded) rd dice are tossed. What is the probability that the dice sum to 8?
dapt 75 1 point (gravo standa 3/36 4/36 5/36	ded) rd dice are tossed. What is the probability that the dice sum to 8?
1 point (gravo standa)  3/36  4/36	ded) rd dice are tossed. What is the probability that the dice sum to 8?

✓ Correct (1/1 point)

# Adapt 84

1/1 point (graded)

Taylor and Katy repeatedly toss a fair coin. Katy wins if heads are thrown, Taylor wins if tails are thrown, and the game ends when someone has won three times. Katy is currently behind 1 to 2. The chance Katy wins is:



## Adapt 91

1/1 point (graded)

You have a group of 12 products. You know that 4 are defective. If 3 are drawn at random without replacement, what is the probability that none of them are defective?

<ul><li>● .25 </li></ul>
O .33
○ .38
○ .42
Submit You have used 1 of 1 attempt
✓ Correct (1/1 point)

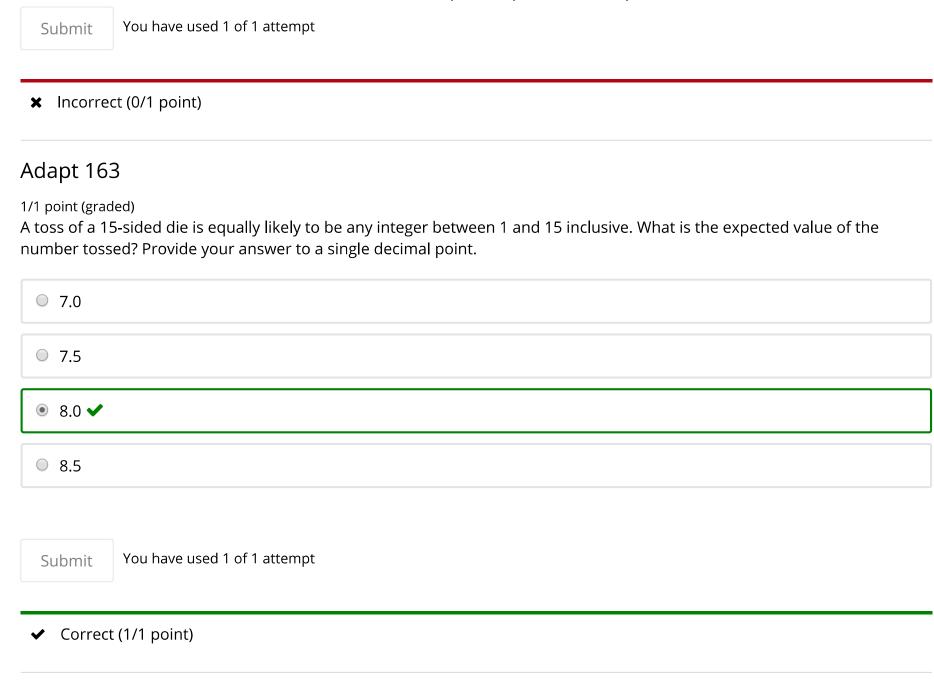
1/1 point (graded)

Ninety (90%) of an insurance company's policyholders are low risk and 10% are high risk. Assume that each policyholder has either 0 or 1 accident in a year. Assume 75% of high risk policyholders have an accident in a year and 10% of low risk policyholders have an accident in a year.

If we randomly pull a policyholder's accident report, what is the chance the policyholder was low risk?

0.33

0.45
<ul><li>● 0.55 </li></ul>
O 0.66
Submit You have used 1 of 1 attempt
✓ Correct (1/1 point)
Adapt 138
0/1 point (graded) Given a standard deck of cards, what is the probability of drawing a face card, given that it is a red card?
© 3/26
© 6/26
O 13/26



1/1 point (graded)

Based on historical results, a pharmaceutical company has determined that if a new cholesterol-reducing drug is manufactured (introduced to the market), the following probability distribution will describe this drug's contribution to the company's profits during the next six months.

Profit	Probability of Profit
Contribution	Contribution
-\$40,000	.40
\$60,000	.10
\$100,000	.50

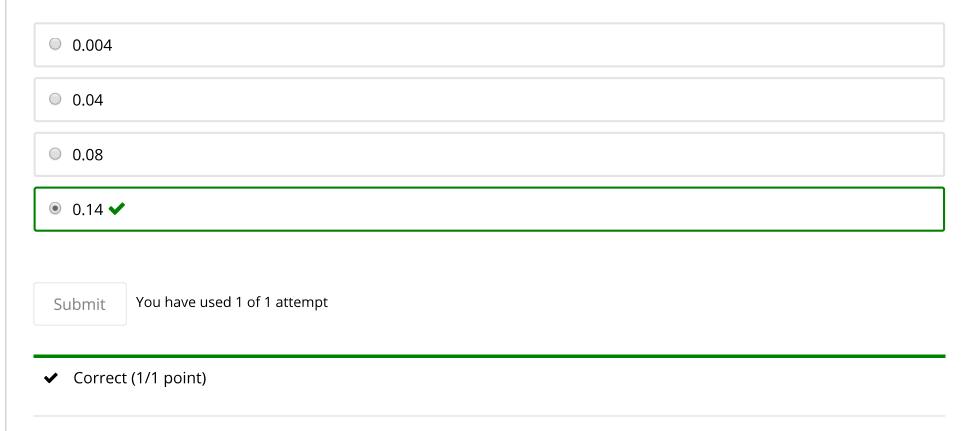
Based on the information given above, how much would you expect the new drug to contribute to the profit of the company?



✓ Correct (1/1 point)

1/1 point (graded)

Suppose 4% of all cell phone chips are defective. We randomly select 100 of the 50,000 cell phone chips produced in a day. What is the chance that 2 defective chips will be found?



#### Adapt 196

1/1 point (graded)

The Securities and Exchange Commission has determined that the number of companies listed in NYSE declaring bankruptcy is approximately a Poisson distribution with a mean of 2.6 per month.

What is the probability of more than one bankruptcy occurring during the next month?

O .1931
<ul><li>.2674</li></ul>
<ul><li>.4816</li></ul>
<ul><li>● .7326 </li></ul>
Submit You have used 1 of 1 attempt
✓ Correct (1/1 point)
Adapt 210
1/1 point (graded) Assume the average weight of a loaf of bread is a normal random variable with mean = 1 pound and standard deviation .05 pounds. What fraction of the loaves weigh between 0.98 and 1.04 pounds?
○ 0.44
O.46

0.48	
0.50	
Submit	You have used 1 of 1 attempt
<b>✓</b> Correc	t (1/1 point)
dapt 22	3
ı	<b>5</b>
1 point (grad	ded)
1 point (grad	
1 point (grad	ded)
1 point (grad you assum	ded)
1 point (grad you assum 20th	ded)
1 point (grad you assum 20th 25th	ded) ne data follows a normal distribution, what is the corresponding percentile for a Z-score of5?
1 point (gradyou assum 20th 25th 28th	ded) ne data follows a normal distribution, what is the corresponding percentile for a Z-score of5?

✓ Correct (1/1 point)

## Adapt 235

1/1 point (graded)

You are trying to determine the proportion of all cars produced today that have defective transmissions. For each four-door car produced today, you will flip a coin; if it comes up heads, you will result in a test of the transmission.

Is this sampling plan biased? If so, which sampling bias is exhibited?

<ul> <li>The sampling plan is not biased.</li> </ul>	
Response bias	

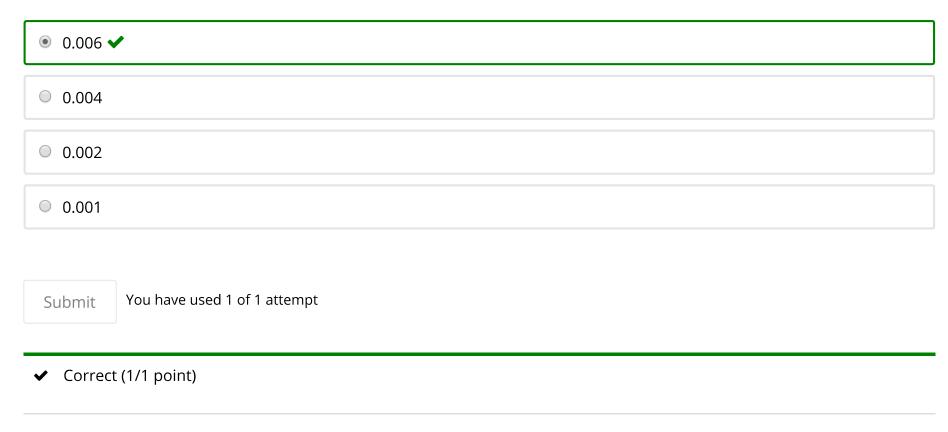
- Selection bias
- Publication bias

Submit You have used 1 of 1 attempt

✓ Correct (1/1 point)

1/1 point (graded)

One 16-ounce bottle of an energy drink has an average of 400 mg of caffeine with a standard deviation of 20 mg. What is the probability that the average caffeine in a sample of 25 bottles is no more than 390 milligrams?



# Adapt 252

1/1 point (graded)

A drawer contains 4 capsules numbered 2, 3, 5, and 8. A sample of size 3 is drawn with replacement. What is the standard deviation of x-bar?

0.59
 1.33 ✓
 1.95
 2.14
 Submit You have used 1 of 1 attempt

✓ Correct (1/1 point)

## Adapt 259

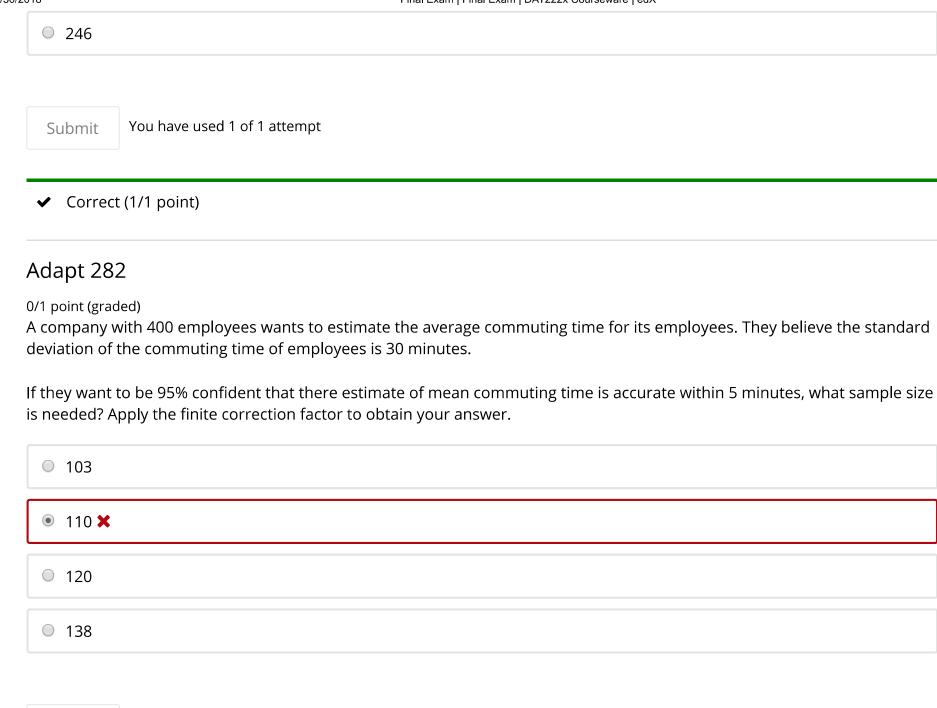
1/1 point (graded)

A company with 40,00 employees wants to estimate the commuting time it takes an employee to get to work. They survey 200 employees and find a sample mean of 35 minutes with a sample standard deviation of 10 minutes.

The company is 99% sure that that the average commuting time is within which of the following ranges?

33.83 to 36.16 minutes

<ul> <li>33.61 to 36.39 minutes</li> </ul>
● 33.18 to 36.82 minutes ✔
<ul> <li>34.90 to 35.10 minutes</li> </ul>
Submit You have used 1 of 1 attempt
✓ Correct (1/1 point)
Adapt 273
1/1 point (graded) We are trying to estimate the average salary of employees at a company. Assume the standard deviation of employee salaries is \$20,000, and we want to be 95% sure our estimate is accurate within \$5,000.
What size sample is needed?
O 85
O 170



Submit You have used 1 of 1 attempt

**★** Incorrect (0/1 point)

## Adapt 297

1/1 point (graded)

Let  $\mu$ = average time needed for an express mail company to deliver a package. Suppose:

HO:  $\mu$  = 2 days

Ha:  $\mu > 2$  days

If you conclude that average time to deliver a package is greater than two days when it's actually two days, you have committed which type of error?



Type II

Submit You have used 1 of 1 attempt

✓ Correct (1/1 point)

1/1 point (graded)

In the past, it has taken an express mail company an average of 2 days to deliver packages. After hiring a consulting firm, they want to know if delivery has improved. Let  $\mu$ = average number of days needed to deliver a package after hiring a consulting firm. The company wants to test the following:

# $H_o$ : $\mu >= 2$ against $H_a$ : $\mu < 2$ .

A sample of 100 packages yields xbar = 1.8 and s = 1.5. For  $\alpha$  = 0.05, what do you conclude?

$\bigcirc$	We fail to	reject Ho,	because	the p-	value is	0.046
------------	------------	------------	---------	--------	----------	-------

	We fail to reject	t Ho, because th	ne p-value is 0.091. 🗸
--	-------------------	------------------	------------------------

We re	iect Ho	because	the	n-value	ic	0.046
WEIG	ופננ חט,	necause	uie	p-value	13	0.040.

14/0 roi	ioct Uo	because the	ا میبادید م	i <i>c (</i>	1 001
were	ופננ חט,	because the	p-value	15 U	J.U9 I.

Submit

You have used 1 of 1 attempt

✓ Correct (1/1 point)

## Adapt 344

1/1 point (graded)

A jar of applesauce is supposed to weigh 18 ounces. The company is trying to determine if its applesauce is overweight. Let  $\mu$  = average ounces in a jar of applesauce. You want to test the following:

# $H_o$ : $\mu <= 18$ ounces against $H_a$ : $\mu > 18$

A random sample of 16 jars yields  $\bar{x}$  = 18.2 ounces and s = 0.6 ounces. For  $\alpha$ =0.05, what do you conclude? Assume the relevant population follows a normal random variable.

	We fail to reject Ho,	meaning that the jars are	e NOT overweight. 🗸
--	-----------------------	---------------------------	---------------------

We fail to	reject Ho	meaning	that the	iars are	overweigh	Ωŧ
vve iali to	reject no,	meaning	triat trie	jais aie	overweigi	IL.

- We reject Ho, meaning that that the jars are NOT overweight.
- We reject Ho, meaning that the jars are overweight.

Submit

You have used 1 of 1 attempt

✓ Correct (1/1 point)

## Adapt 359

1/1 point (graded)

Let p = fraction of shots taken from right side of the court when the rebound is grabbed on the right side of the court. Of 110 missed shots from the right side of the court, 65 were rebounded on the right side of the court.

For  $\alpha = 0.05$ , Ho: p = 0.5, and a two-tailed test, what would you conclude?

- We fail to reject Ho, because the p-value is 0.977.
- We fail to reject Ho, because the p-value is 0.07.
- We reject Ho, because the p-value is 0.035.
- We reject Ho, because the p-value is 0.017.

Submit

You have used 1 of 1 attempt

✓ Correct (1/1 point)

#### Adapt 383

1/1 point (graded)

The Module 5\_Quiz Data\_High School.xlsx spreadsheet contains the income of randomly selected families whose students attend Odessa and Dylan High Schools.

For  $\alpha$  = 0.05, what would you conclude about the variances of family incomes at the two schools? Assume family incomes are normally distributed at each school.

The variances are equal.   ✓
The variances are NOT equal.

Submit

You have used 1 of 1 attempt

✓ Correct (1/1 point)

#### Adapt 402

0/1 point (graded)

The Module 5\_Quiz Data\_Process.xlsx spreadsheet contains the amount (in pounds) of a drug produced for 100 days using Process A and the amount of a drug (in pounds) produced using Process B on a different set of 100 days. You want to test Ho: mean pounds produced in a day with Process B against Ha: mean pounds produced in a day with Process A  $\neq$  mean pounds produced in a day with Process B.

For  $\alpha = 0.05$ , what would you conclude?

- We reject Ho, because the p-value is 0.03.
- We reject Ho, because the p-value is 0.05.
- We fail to reject Ho, because the p-value is 0.33. 🗶

	ail to reject Ho, because the p-value is 0.67.	
Submit	You have used 1 of 1 attempt	

© All Rights Reserved