Part 2 of Exam 1 will be given on September 26.
Students, Part 2 will be very similar to this exam. First there will be a number of questions about
chapter TAN,1.

Students may open Excel to perform calculations, but they must open and maintain a blank sheet,
and they are not allowed to open anything else (*e.g.*, no browsers). Moreover, students must perform
<u>all</u> calculations in Excel: no calculators or smartphones allowed.

(1) *[worth 1 point]* Who was Epicurus? *Circle the one correct answer*

(a) Greek philosopher in the B.C. era   (c) Roman Stoic philosopher from the B.C. era

(b) Greek philosopher in the A.D. era   (d) Roman Stoic philosopher from the A.D. era

(2) *[worth 1 point]* Which of the following lessons about data analysis should we learn from the
teachings of Epicurus? *Circle all correct answers*

(a) We should change our mind *at least* three
times when analyzing data

(b) We should be objective as possible when
analyzing data, and not let our personal beliefs
skew what we report about data.

(c) We should acknowledge stochasticity in the
world, and that there are some questions which
have no simple answer

(d) We should acknowledge stochasticity in the
world, and that every event is ultimately caused
by randomness

(3) *[worth 1 point]* Virtually all of statistics is dedicated to determining whether outcomes are the
result of stochastic errors or deterministic (non-random) factors.
Circle one: TRUE   FALSE

(4) *[worth 1 point]* Religious people recover faster from trauma.
Circle one: TRUE   FALSE

(5) *[worth 1 point]* Religious people are happier in life.
Circle one: TRUE   FALSE

(6) *[worth 1 point]* Being prayed for increases recovery rates from surgery.
Circle one: TRUE   FALSE

(7) *[worth 1 point]* If one group of patients recovering from surgery is prayed for and 51% of
them recover better than a similar group who was not prayed for, this may not be enough evidence
to conclude that prayer works.
Circle one: TRUE   FALSE

(8) *[worth 1 point]* The phrase "Beware the Ides of March" meant, "Beware the omens of March,"
which was uttered to Alexander the Great shortly before his Generals assassinated him.
Circle one: TRUE   FALSE

(9) *[worth 1 point]* An ancient Greek or Roman may ask the gods questions by inspecting the entrails of carcasses.
Circle one: TRUE   FALSE

(10) *[worth 1 point]* According to Epicurus, Jonah was identified by God as the source of his anger.
Circle one: TRUE   FALSE

(11) *[worth 1 point]* Ancient Romans were particularly fond of watching how cows eat, what they eat, and where they choose to walk about to infer omens, and would carry sacred cows with them to war. These inferences from cows were called "auspices."
Circle one: TRUE   FALSE

(12) *[worth 1 point]* People in Greece today still observe cow livers to divine the future of a newly married couple.
Circle one: TRUE   FALSE

(13) *[worth 1 point]* Paintings from the Middle Ages of Europe don't "look right" because they lack something called circumspection.
Circle one: TRUE   FALSE

(14) *[worth 1 point]* Paintings from the Middle Ages look awkward partly because Europe lost much of its mathematical knowledge as Rome crumbled and the Middle Ages began.
Circle one: TRUE   FALSE

(15) *[worth 1 point]* Many painters of the Middle Ages were deemed heretics by the Catholic Church because they did not contain a central vanishing point, causing the pictures to look unreal, and that was considered an insult to God.
Circle one: TRUE   FALSE

(16) *[worth 1 point]* Karl Marx lied about the true status of wages paid in England during the Industrial Revolution. He said families of the lower-class were cast into poverty when in reality their wages fell only slightly.
Circle one: TRUE   FALSE

(17) *[worth 1 point]* Frank Meenik is a reformed Skinhead who once believed white people were superior to other races. The Skinhead movement never exposed him to any science—neither "bad" nor "good" science—but when he started reading about DNA during the OJ Simpson trial, he realized that there was good science that showed all ethnicities were basically the same species of human.
Circle one: TRUE   FALSE

(18) *[worth 1 point]* Target can determine when their female customers are pregnant because the customers will increase their purchases of certain vitamins like zinc and magnesium.
Circle one: TRUE   FALSE

(19) *[worth 1 point]* Once Target knows a female customer is pregnant, it sends her letters of congratulations and encourages her to register her baby shower at Target (note: "register" means to list the types of gifts the female would like to receive as presents during her baby shower).
Circle one: TRUE   FALSE

(20) *[worth 1 point]* The Oakland As were able to put together a winning team with only a small budget by using statistics to better determine the true value of a player, where value is determined by the players' contribution to wins or runs. Rather than spending more money, they spent their money smarter, using statistics.
Circle one: TRUE   FALSE

(21) *[worth 1 point* The Oakland A's used statistics to show the

_____ percentage is a better measure of a player's true contribution to a baseball

team than the _____ percentage, which most teams at the time used.

(22) *[worth 1 point]* The Oakland As essentially executed a(n) _____, where they sold players which other teams valued too high and bought players other teams valued too low.

(23) *[worth 1 point]* VaR stands for _____.

Then there will be some questions about chapter CN,1. There may be other questions than just definitions.

(24) *[worth 5 points]* List the three major problems with VaR which helped produce the 2008 Financial Crisis. List the problem with a brief explanation and/or example. Use complete, intelligent sentence, and strive for clarity.
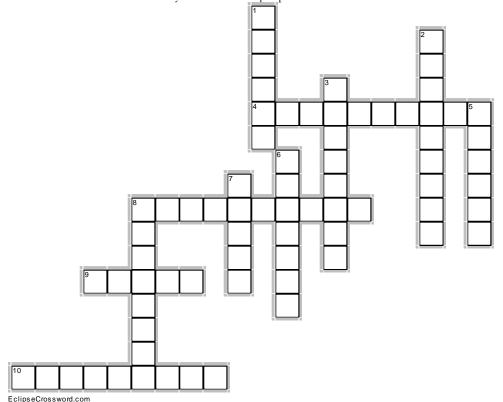
1.

2.

3.

(25) *[worth 11 points]* Use the clues below to complete the following crossword puzzle.
Across

4. A(n) _____ bank is like a bank for rich people, where they park their money and let the bank invest it and earn a return.
8. Liquid assets offered to secure a loan, where if the loan is not paid back the lender takes ownership of the assets
9. A(n) _____ fund is like an investment bank, but are often smaller, more aggressive, and specialize in a unique form of trading or investment.
10. A type of loan given to someone with a bad credit history, making the loan more risky than standard loans.
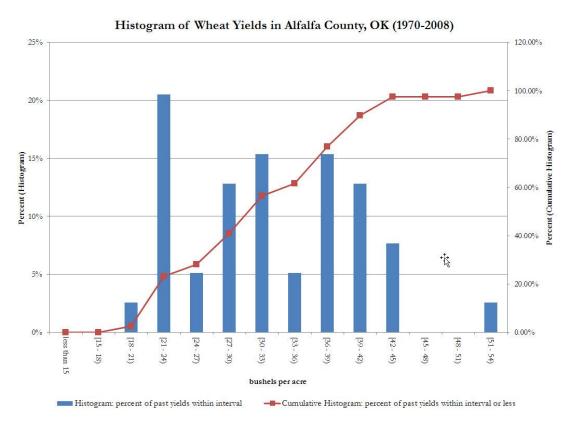
Down

1. A(n) _____ asset is an asset that can be easily bought and sold. Like, if you have Treasury Bonds, you can easily sell those bonds at any point in time. A house is not a(n) ____ asset because it takes a long time to sell a house, and the quicker one wishes to sell it the lower price one must accept.
2. A payment made by an insurance company to the holder of an insurance policy, if the adverse relevant to the policyoccurs. Like, if you buy car insurance and get into a wreck, the company pays you a certain amount of money to compensate you for the damage done to your car.
3. Another word for borrowing. Often used to denote the amount of money one borrows.
5. Someone who buys and sells financial instruments, usually to speculate on short-term movements in prices
6. The amount of money you regularly pay to an insurance company, regardless of whether the adverse event relevant to the insurance policy occurs. Like, if you buy car insurance, you pay this money regardless of whether you get into a wreck.
7. Financial instruments are often purchased by borrowing some of the money and paying the rest out of one's own cash. A leverage _____ equals the amount of money one borrows to buy an investment divided by the amount of one's own cash used to buy that investment.
8. Someone who loans money. These are the people who were bailed-out in the 2008 Financial Crisis.

EclipseCrossword.com

Use the histogram below to answer the following questions. Note in the histogram that the brackets " (" and " [" are backwards. These questions are cumulative, and if you get the first question wrong you will also get the subsequent questions wrong. I only award partial credit for an answer that is correct only if a previous answer had been correct.
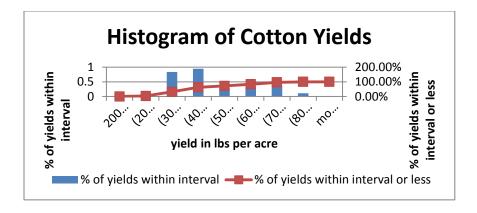

Histogram of Wheat Yields in Alfalfa County, OK (1970-2008)

(26) *[worth 1 point]* What is the probability of yields being 27 bushels or lower?

(27) *[worth 1 point]* Suppose an insurance policy pays $500 whenever crop yields are 27 bushels or less. What is the expected or average indemnity the insurance company will pay, if they sold this plan hundreds of times? Show your work. Be sure to indicate the units associated with your numerical answer.

(28) *[worth 1 point]* Suppose the insurance company has a policy of charging a premium equal to 7% of the expected indemnity you calculated in the previous question. What premium would it then charge? Show your work. Be sure to indicate the units associated with your numerical answer.

(29) *[worth 1 point]* What is the average or expected profit of the insurance policy, if it were sold hundreds of times? Show your work. Be sure to indicate the units associated with your numerical answer.

(30) *[worth 1 point]* Suppose the company sold this policy to an individual, and the subsequent actual yield was 20 bushels. What would be the company's profits from selling this policy to that person for that year? Show your work. Be sure to indicate the units associated with your numerical answer.

(31) *[worth 1 point]* Suppose the company sold this policy to an individual, and the subsequent actual yield was 35 bushels. What would be the company's profits from selling this policy to that person for that year? Show your work. Be sure to indicate the units associated with your numerical answer.

(32) *[worth 2 points]* The following histogram has a major flaw. What is it? A one sentence answer will suffice.

And a question like this

(33) ***[worth 2 points]*** Below are 100 profits from a historical simulation. Using a 3% threshold, what is the VaR for this investment?

Answer = _____

43568	23258	47549	85171	20056
93232	34339	24895	89300	75461
81377	85342	37393	38245	16058
76397	75024	155	58359	84914
50174	96041	200	92271	19551
38458	13470	52569	97040	79690
74522	53380	60447	38925	36460
59115	68018	38567	40824	63688
60360	32500	87612	19917	92223
13734	62441	12801	100	98489
29001	25349	55586	56275	47182
74717	28222	61814	74075	74256
47137	28501	59467	79731	75255
10994	36075	150	51165	65908
88155	35217		57992	35516
52843	85528		58241	45261
52065	8727		23166	33756
96083	93522		15201	51122
91373	54211		96845	56
74663	49379		47017	45463
82597	41844		24985	
	60731		88585	
	58890			

(34) *[worth 2 points]* Below are the courses a student has taken thus far in college, along with their grade. What is the student's GPA? Show your work.

Course	Hours of Credit	Grade
AGEC 1114	4	C
AGEC 3213	3	B
AGEC 3333	3	B
AGEC 4213	3	A

And there will be a question very similar to this one.

(35) [worth 3 points] My friend and colleague, Jayson Lusk, held real auctions for Guaranteed Tender (GT) steaks in grocery stores to estimate consumers' willingness-to-pay (WTP), where WTP is defined as the maximum premium consumers will pay on a per lb basis for a GT steak, in addition to the price of a regular steak. For instance, if WTP = $2 and a regular steak costs $5 per lb, the consumer will be willing to pay $7 for a GT steak but not a penny more. These are real data, and can be downloaded at

http://seeds.okstate.edu/SeedsPPP/CN,1/TenderBeef/JaysonSteakData.xls

Suppose that it costs $0.10 more to sell a GT steak than a regular steak of similar quality. Assume each shopper purchases either a regular or GT steak, both 0.5 lbs each. What is the profit-maximizing premium the firm should place on the GT steak? Construct a spreadsheet to answer this question, one where I can clearly see exactly how you calculated the profit-maximizing premium. Save this spreadsheet and email it to me at bailey.norwoodCLASS@gmail.com.

Also, tell me this premium below.

The profit-maximizing premium is $_____ / lb over a regular steak.