

第二周答疑精编

1. 职业伦理

1.1. MNI

1.1.1. 问题描述：看不懂

1.1.2. 题目

1.6.1 基础题

Q-23. While waiting in the business class lounge before boarding an airplane, Becca Msafari, CFA, an equity analyst, overhears a conversation by a group of senior managers, including members of the board, from a large publicly listed bank. The managers discuss staff changes necessary to accommodate their regional expansion plans. Msafari hears several staff names mentioned. Under what circumstances could Msafari *most likely* use this information when making an investment recommendation to her clients? She can use the information:

- A. If the discussed changes are unlikely to affect investor perception of the bank.
- B. Under no circumstances.

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- C. If she does not breach the confidentiality of the names of the staff.

解答：

这道题目时说有一个分析师在等飞机的时候听到了一些 senior manager 的讨论，这些 manager 在讨论员工的调动。问说 M 这个人在什么情况下可以用这些他听到的信息，考察的是关于 MNI 相关的内容。首先，如果是重大非公开信息，那么他听到的信息是绝对不能用于决策的，因此此时 B 选项所说的 under no circumstances 是不对的，B 选项意思是任何情况下都可以用。C 选项说只要不透露员工姓名就可以用，如果是涉及重大非公开信息，就算不透露员工姓名也是不能用的。因此 B 和 C 不对。A 选项的意思是这个信息不影响投资者的决策，那么证明这个信息并不是重大非公开信息，符合马赛克理论，是可以使用的。

1.2. MNI

1-36

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1.2.1. 问题描述：老师可以讲解一下这个题目吗？

1.2.2. 题目：

单选题

Andy Miller, a portfolio manager, works for a local investment firm. In a restaurant, he overheard about a merger which is not released to public by two fund managers. The next day, Andy bought the stock for his clients. Does Andy violate any code and standards?

A No.

B Yes, related to Material Nonpublic Information.

C Yes, related to Market Manipulation.

解答：

这道题目是说 A 同学偷听到了一个兼并收购的信息，这个信息是非公开的，所以这个消息是内幕消息。第二天，他就买了相关的股票给客户，就相当于利用了内幕消息。所以选 B。

1.3. Misconduct

1.3.1. 问题描述：无

1.3.2. 题目

Q-17. Gabrielle Gabbe, CFA has been accused of professional misconduct by one of her competitors. The allegations concern Gabbe's personal bankruptcy filing 10 years ago when she was a college student and had a large amount of medical bills she could not pay. By not disclosing the bankruptcy filing to her clients, did Gabbe most likely violate

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any CFA Institute Standards of Professional Conduct?

- A. No.
- B. Yes, related to Misrepresentation.
- C. Yes, related to Misconduct.

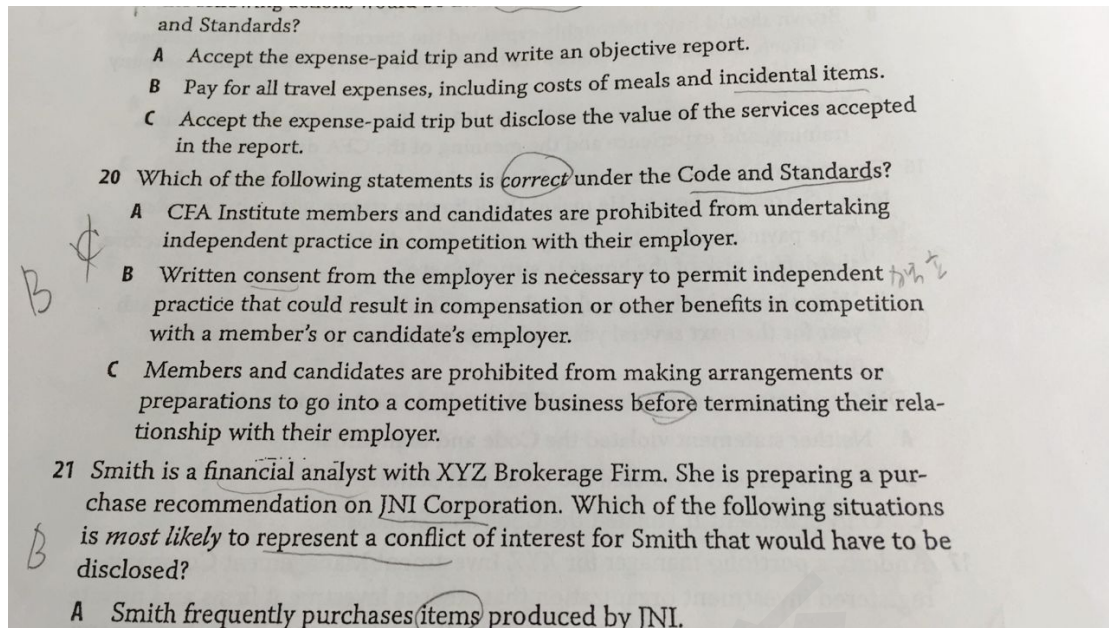
解答：

这道题的考点是个人破产。这道题里说的是他由于支付不起医药费所以申请的个人破产，并且已经是 10 年前。说明既不是由于欺诈所导致的破产，也已经过了破产期，所以不披露是可以的，不违规。

1.4. 雇主忠诚度

1.4.1. 问题描述：老师，20 为什么不选 C

1.4.2. 题目



解答：

在还没正式离职前，不可以做和现在雇主业务相关的业务准备，否则违反对雇主的忠诚。
选项 C 说的太绝对了，只要得到雇主允许是可以的。

1.5. 内幕消息

1.5.1. 问题描述：老师，我想问下，利用内幕消息交易，这不是触犯法律了吗？怎么会是 legal but unethical 啊

1.5.2. 题目：无

解答：

这个嘛，题目一般会做一定的限定条件，假定某个国家或者地区不限定内幕交易。实证当中，一些非常落后的，法律不健全的国家也是可能出现这样的情况。CFA 毕竟是站在全球视角的。

1.6. 非公开信息交易

1.6.1. 问题描述：老师，这个人明明用了这个非公开的消息做决策了呀为什么答案是没有用消息进行交易呢

1.6.2. 题目

时间差, 不公平违规。

Q-25. Darden Crux, CFA, a portfolio manager at SWIFT Asset Management Ltd., (SWIFT) calls a friend to join him for dinner. The friend, a financial analyst at Cyber Kinetics (CK), declines the invitation and explains she is performing due diligence on Orca Electronics, a company CK is about to acquire. After the phone call, Crux searches the Internet for any news of the acquisition but finds nothing. After verifying that Orca is on SWIFT's approved stock list, Crux purchases Orca's common stock and call options for selective SWIFT clients. Two weeks later, CK announces its intention to acquire Orca. The next day, Crux sells all of the Orca securities, giving the fund a profit of \$3 million. What action should Crux most likely have taken to avoid violating any CFA Institute Standards of Professional Conduct?"

股票, 有价证券

☒ A. Purchase the stock and call options for all clients.

☒ B. Trade only after analyzing the stock diligently and thoroughly.

☒ C. Refuse to trade based on the information.

B Q-26. According to the CFA Institute Code of Ethics and Standards of Professional Conduct, trading on material nonpublic information is least likely to be prevented by establishing:

most?

☒ A. personal trading limitations.

解答:

题目问的是怎么做才能让避免违规, 所以就是拒绝利用这个消息进行交易。

1.7. GIPS

1.7.1. 问题描述: 如果两家公司合并了, 这两家公司本来是一家遵守 GIPS, 一家不遵守, 那合并后违反 GIPS 的要求吗

1.7.2. 题目 无

解答:

是这样的, 如果两家公司合并后, 在业务上是相互独立的, 那么他们可以独立的宣称是否遵守 GIPS; 如果业务上是不独立的, 则必须两家合并的公司全部都遵守之后, 才能继续宣称遵守 GIPS。

1.8. Sustainability

1.8.1. 问题描述: 为什么这道题选 A 不选 C

1.8.2. 题目

Gardner Knight, CFA, is a product development specialist at an investment bank. Knight is responsible for creating and marketing collateralized debt obligations (CDOs) consisting of residential mortgage bonds. In the marketing brochure for his most recent CDO, Knight provided a list of the mortgage bonds that the CDO was created from. The brochure also states “an independent third party, the collateral manager, had sole authority over the selection of all mortgage bonds used as collateral in the CDO.” However, Knight met with the collateral manager and helped her select the bonds for the CDO. Knight is least likely to be in violation of which of the following CFA Institute Standards of Professional Conduct?

- A. Suitability
- B. Conflicts of Interest
- C. Client Communication

解答：

这里 C 选项因为题目并没有明确说是以伤害客户利益获得了更好的交易价格，因此这里 C 的话不能明确说是违规

1.9. 利益冲突和独立客观性

1.9.1. 问题描述：老师，请问一下，独立客观性和利益冲突的披露这两条有什么比较好的区别方法，实在搞不太清楚😓

1.9.2. 题目：无

解答：

这两条准则确实容易搞混。利益冲突披露这个条件下只要是利益冲突就需要完全如实披露，那么就不会违反这个条款，但是即使披露了，也不代表不会违反独立客观。这是这两个条款的最大区别。

1.10. Situational influences

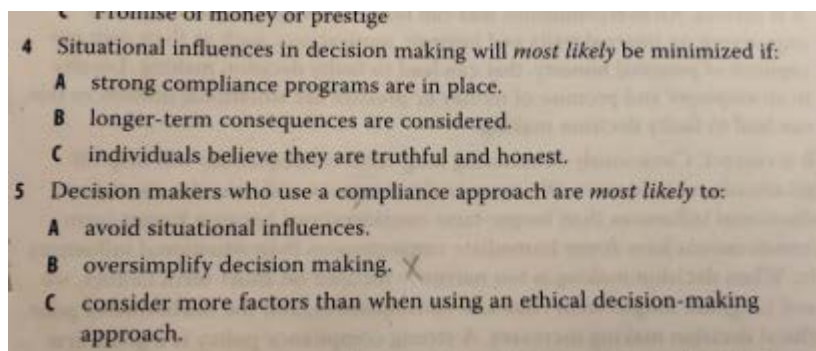
1.10.1. 问题描述：4, 5 两题关于 situational influence 和 decision making 没有找到类似内容的讲解 第四题我的理解是 situational influence 对制定决策影响最小的？老师课件里

6-36

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说了五个因素 貌似只提到 A 还是我题目理解错了 另第 5 题其实 A 和 C 比较纠结 B
我首先排除的 不是很能理解

1.10.2. 题目:



解答:

首先我们需要搞清楚的是 situational influences 指的是由于环境和文化对于人的影响。比如东西方的文化差异，原生家庭给人的影响等。所以对于第 4 题的 A 选项的意思是通过合规可以使 situational influences 最小化，这是不正确的，合规只是符合法律法规的要求去指定，无法消除由于每个人自身环境和文化对其的影响的。选项 B 说的是如果我考虑某一件事情时站在一个更长远的角度来考虑的话，往往就不会短视，就可以最大程度的消除环境和文化对自身的影响。所以这道题选 B。

关于第 5 题，题干表达的是做决策的人如果用的仅仅是合规方面的考虑，也就是只考虑法律法规的话，那么其实就忽视了 situational influences 的影响，也就是忽略了环境和文化的影响，那么这时候做出的决定就会比较简单。

1.11. Misconduct

1.11.1. 问题描述: 陈老师，关于 misconduct 请教一下，是不是违反了任何一条原则，都是 misconduct

1.11.2. 题目: 无

解答:

misconduct 定义是不诚意、欺骗和欺诈的行为并且会对专业性和名誉有负面影响的都属

于不当行为。那么违反任何一条，说明这个 member 和 candidate 就违反职业道德，就会对名誉有负面影响，所以就违反 misconduct。另外，给一个复习职业伦理的建议：就是不建议大家把某一个行为，然后对照准则，把每一条准则是否违反列出来，这样做的意义其实并不是很大，更重要的是在题目中的选项的对或错，并知道原因。（比如：违反任一条，也一定违反“知法守法”）

1.12. 个人交易

1.12.1. 问题描述：老师您好 9 月 5 日练习题第五题有点疑问 题目中 A 同学好像没有体现出来有个人交易的行为啊？还有 c 选项中 B 允许 A 用 J 这个行为也是不违规的吗

1.12.2. 题目：无

Anderb, a portfolio manager for XYZ Investment Management Company—a registered investment organization that advises investment firms and private accounts—was promoted to that position three years ago. Bates, her supervisor, is responsible for reviewing Anderb’s portfolio account transactions and her required monthly reports of personal stock transactions. Anderb has been using Jonelli, a broker, almost exclusively for brokerage transactions for the portfolio account. For securities in which Jonelli’s firm makes a market, Jonelli has been giving Anderb lower prices for personal purchases and higher prices for personal sales than Jonelli gives to Anderb’s portfolio accounts and other investors. Anderb has been filing monthly reports with Bates only for those months in which she has no personal transactions, which is about every fourth month. Which of the following is most likely to be a violation of the Code and Standards?

- A. Anderb failed to disclose to her employer her personal transactions.
- B. Anderb owned the same securities as those of her clients.
- C. Bates allowed Anderb to use Jonelli as her broker for personal trades.

解答：

这里 C 选项因为题目并没有明确说是以伤害客户利益获得了更好的交易价格，因此这里 C 的话不能明确说是违规

1.13. Misrepresentation

1.13.1. 问题描述:如果在自己的 report 中使用了 outside manager 的观点,但是没有 disclose, 这种算违反了独立客观性还是违反了 misrepresentation?

1.13.2. 题目: 无

解答:

如果使用外部基金经理,需要披露。否则违反错误表述。独立客观是强调在选择外部经理是需要独立客观。

1.14. Duty to employer

1.14.1. 问题描述:老师,第二题的意思是说,不论后边怎么补救,只要 supervisor 的属下有违规, supervisor 就违规了吗?

1.14.2. 题目

2. Eileen Fisher, CFA, has been a supervisory analyst at SL Advisers for the past 10 years. Recently, one of her analysts was found to be in violation of the CFA Institute Standards of Professional Conduct. Fisher has placed limits on the analyst's activities and is now monitoring all of his investment activities. Although SL did not have any compliance procedures up to this point, to avoid future violations, Fisher has put in place procedures industry standards. Did Fisher most likely violate any CFA Institute Standards of Professional Conduct?
- A. No, because she is taking steps to implement compliance procedures that are more than adequate.
 - B. Yes.
 - C. No, because she has taken steps to ensure the violations will not be repeated by the analyst.

解答:

在我们考察领导责任这个点时,如果领导只是处理了问题和整改是不够的,必须在事件发生前就制定了相关的制度,并且监督实施。没有说做到就属于违规。

1.15. 内幕信息

1.15.1. 问题描述:第 5 题中,除了违反尽调之外,是否也包含:W 偶然听到的的可以理解为来自 competitor 者吗,因为是来自另一家金融公司的分析师。那么,来自竞争者

的信息就不是 MNI 了，应该考虑为市场噪音。

1.15.2. 题目

5. Willier is the research analyst responsible for following Company X. All the information he has accumulated and documented suggests that the outlook for the company's new products is poor, so the stock should be rated a weak "hold." During lunch, however, Willier overhears a financial analyst from another firm whom he respects offer opinions that conflict with Willier's forecasts and expectations. Upon returning to his office, Willier releases a strong "buy" recommendation to the public. Willier:
- A. Violated the Standards by failing to distinguish between facts and opinions in his recommendation.
 - B. Violated the Standards because he did not have a reasonable and adequate basis for his recommendation.
 - C. Was in full compliance with the Standards.

解答：

我们在说竞争者的时候一般说的是上市公司竞争对手发布的消息，不是来自同行的观点。这道题主要说明的是研究结论要靠自己的审慎分析，仅仅是道听途说，哪怕是行业专家的，知名分析师的观点也不能直接作为自己的结论。

1.16. 利益冲突

- 1.16.1. 问题描述：老师好，Ethics 请教：题干中说到被邀请免费乘坐飞机，但老师说是相当于赠送飞机，但前面还有个定语董事会的飞机，不明白怎么理解噢。另外 A 选项的利益冲突是表现在哪呢。

1.16.2. 题目

A fund manager who is an independent third party is responsible for the equity portfolio of a high-tech company. He sits as the board member of the company and is invited to take the plane of board's directors for free. Because there is no cash transaction, he did not disclose this arrangement to his employer, and he did not explain to his clients and prospective clients. Which of the following did he most likely violate?

- A. Only violate for disclosure of conflict of interests
- B. Only violate additional compensation arrangement
- C. Violate both

Correct Answer: C

解答:

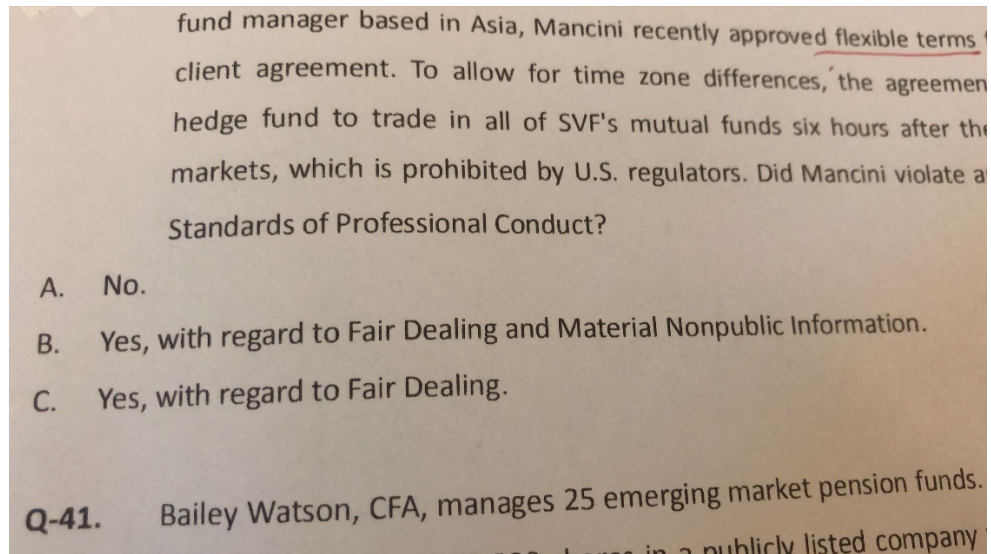
总体来说看贵不贵重，如果是小东西，比如笔记本，一杯咖啡，可以收，只要披露即可。贵重东西是不能收的，收了披露也是违规。这里虽然不是钱，是服务，同样也是不可以收的。

1.17. 内幕信息

1.17.1. 问题描述: flexible trading terms 指什么，为什么 40 题涉及 MNI 呢？

1.17.2. 题目

Charlie Mancini, CFA, is the Managing Director for Business Development at SV Financial, (SVF), a large U.S.-based mutual fund organization. Mancini has been under pressure recently to increase revenues. In order to secure business from a large hedge fund manager based in Asia, Mancini recently approved flexible terms for the fund's client agreement. To allow for time zone differences, the agreement permits the hedge fund to trade in all of SVF's mutual funds six hours after the close of U.S. markets, which is prohibited by U.S. regulators. Did Mancini violate any CFA Institute Standards of Professional Conduct?



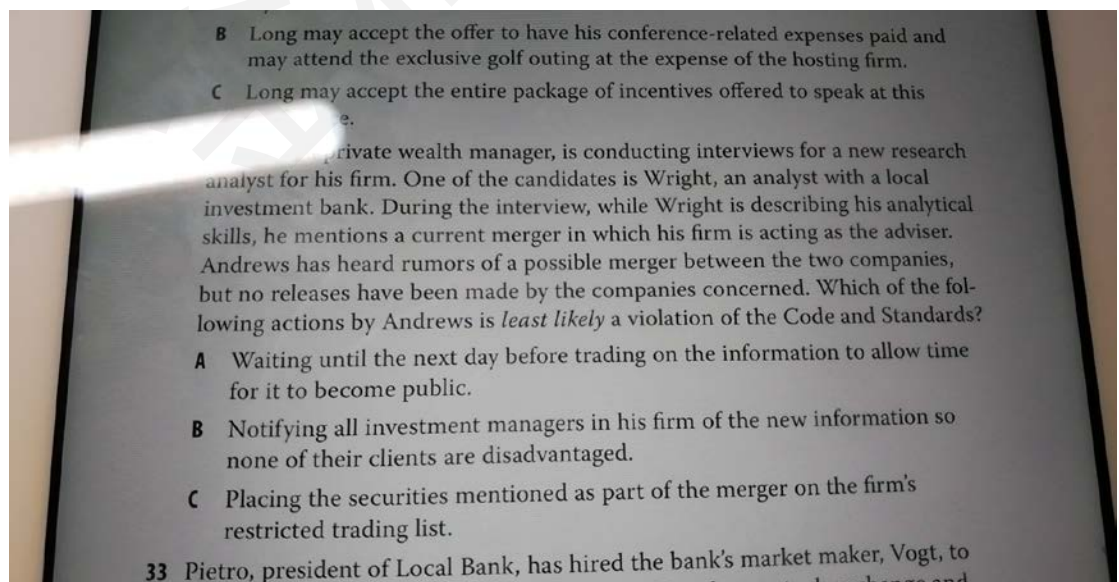
解答：

这道题很特殊的。之前我国在设计沪伦通也讨论过这个问题。这题里面美国交易者休市的时候，如果上市公司出现了重大事件，美国投资者不能交易，亚洲的投资者却能交易。这相当于亚洲投资利用内幕信息提前交易。

1.18. 内幕信息

1.18.1. 问题描述：32 题为什么选 c?

1.18.2. 题目



解答：

A 听到的信息很可能是内幕信息，内幕信息是不能使用的，A 是等待到明天交易，B 是直接通知公司其他同事，这些都是不对的，C 是把该公司放到限制性名单中，这样是可以确保不适用内幕信息的。

1.19. 勤勉尽责

1.19.1. 问题描述：今天题目的第四题还是不太理得顺，这个人只做了简单了解和分析，怎么就说他勤勉尽责了呢？

1.19.2. 题目

4. Norman Bosno, CFA, acts as an outside portfolio manager to a Sovereign Wealth Fund. Raphael Palmeti, a Fund official, approaches Bosno to interest him in investing in Starlite Construction Company. He tells Bosno if he approves a two million dollar investment in

Starlite by the Fund, Bosno will receive a “bonus” that will make him wealthy. Palmeti also adds if Bosno decides not to invest, he will lose the Fund account. After doing a quick and simple analysis, Bosno determines the investment is too risky for the Fund. If Bosno agrees to make the investment, what Standard is least likely to be violated?

- A. Loyalty, Prudence, and Care
- B. Diligence and Reasonable Basis
- C. Additional Compensation Arrangements

解答：

题目问的是投资了会违背什么原则。如果投资了明显违反了对客户的忠诚和审核，并且获得额外报酬也应该向雇主披露。当然投资了不能证明他就不勤勉尽责，更不能证明他勤勉尽责，这个是不确定的。这题考法非常灵活，和真题难度相仿。

1.20. 审慎客观

1.20.1. 问题描述：想问一下为什么不能选 C 啊？

1.20.2. 题目

2. Scott works for a regional brokerage firm. He estimates that Walkton Industries will increase its dividend by US\$1.50 a share during the next year. He realizes that this increase is contingent on pending legislation that would, if enacted, give Walkton a substantial tax break. The US representative for Walkton's home district has told Scott that, although she is lobbying hard for the bill and prospects for its passage are favorable, concern of the US Congress over the federal deficit could cause the tax bill to be voted down. Walkton Industries has not made any statements about a change in dividend policy. Scott writes in his research report, "We expect Walkton's stock price to rise by at least US\$8.00 a share by the end of the year because the dividend will increase by US\$1.50 a share. Investors buying the stock at the current time should expect to realize a total return of at least 15% on the stock." According to the Standards:
- A. Scott violated the Standards because he used material inside information.
 - B. Scott violated the Standards because he failed to separate opinion from fact.
 - C. Scott violated the Standards by basing his research on uncertain predictions of future government action.

解答:

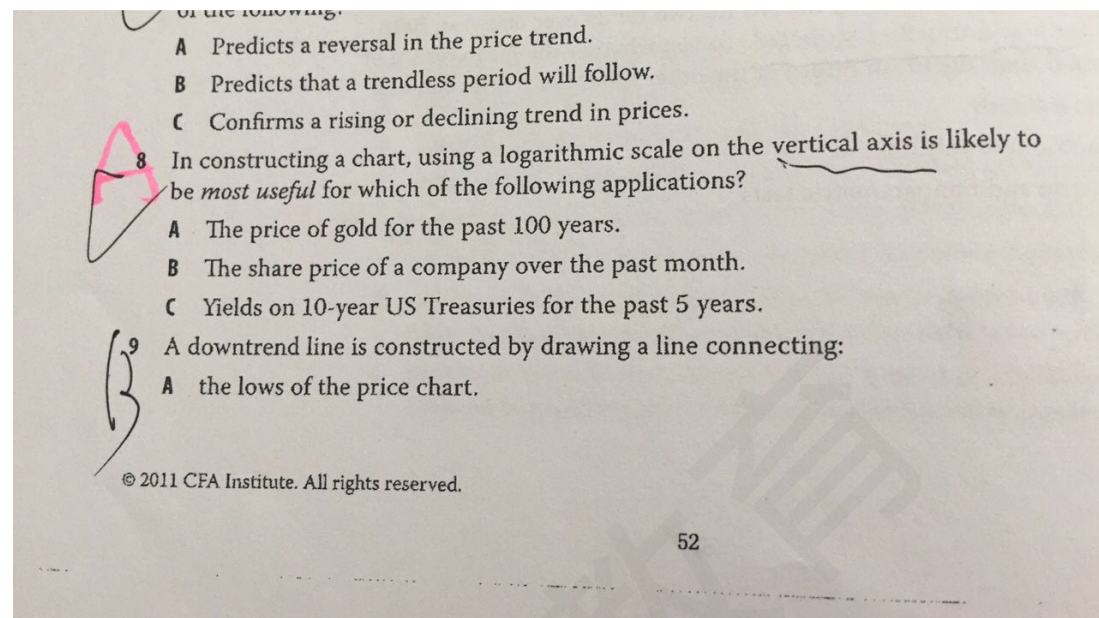
是这样子的，券商的分析师在写研究报告的时候是依据市面上大量的信息，然后辅之自己的研究得出结论。这个结论是分析师的主观意见，可对可错，就像分析师告诉你现在可以买贵州茅台，原因是因为他在调研的时候了解到分销商那边还是在抢货，如果几个月后茅台股价跌了，分析师的结论并不是对的，这个也不能说分析师不尽责。我们要求的是分析师是勤勉的，分析过程是有理有据的，依据的信息不能保证全部都是事实，但是要区分清楚事实与观点。

2. 数量

2.1. Logarithmic scale

2.1.1. 问题描述：这个第八题啊 没读懂他想问什么，logarithmic scale 是指什么？

2.1.2. 题目



解答：

这道题问的是哪一个会取对数，一般我们算分布的时候取对数，是在时间段比较长的时候，比如 A 选项的 100 年，如果不取对数，数据差额会比较大，用对数衡量会缩小这个差额，能够比较合理的反应价格和时间的关系。

2.2. Population mean 计算

2.2.1. 问题描述：这个怎么做

2.2.2. 题目

CFA level1

23. Independent samples drawn from normally distributed populations exhibit the following characteristics:

Sample	Size	Sample Mean	Sample Standard Deviation
A	25	200	45
B	18	185	60

Assuming that the variances of the underlying populations are equal, the pooled estimate of the common variance is 2,678.05. The t-test statistic appropriate to test the hypothesis that the two population means are equal is closest to:

- A. 1.90.
- B. 0.29.
- C. 0.94.

24. A portfolio manager would like to calculate the compound rate of return on an investment. Which of the following mean returns will be most likely?

解答:

这个带入下面公式计算就可以了哈

$$t = \frac{(\bar{X}_1 - \bar{X}_2) - (\mu_1 - \mu_2)}{\left(\frac{s_p^2}{n_1} + \frac{s_p^2}{n_2} \right)^{1/2}}$$

2.3. EAR

2.3.1. 问题描述: 想请问下老师这道题为什么是直接除以 12 而不是用 EAR 的公式算出 EAR 呢

2.3.2. 题目

Example



➤ A sweepstakes winner may select either a perpetuity of £2,000 a month beginning with the first payment in one month or an immediate lump sum payment of £350,000. If the annual discount rate is 6% compounded monthly, the present value of the perpetuity is:

- A. Less than the lump sum.
- B. Equal to the lump sum.
- C. Greater than the lump sum.

$$\frac{2000}{r} = \frac{2000}{6\%/12}$$

解答:

这里 6% 给出的是以年为单位的名义利率，这里 2000 是每月的支付金额，所以这时用的收益率是用 6% 除以 12 就可以。

如果这里 2000 是每年支付的利息，这时需要用 EAR 换算为以年为单位的有效利率计算。

2.4. Discount rate

2.4.1. 问题描述: 想问下老师这种算 discount rate 的题怎么用计算器算出来呢?

2.4.2. 题目

13 Consider the two projects below. The cash flows as well as the NPV and IRR for the two projects are given. For both projects, the required rate of return is 10 percent.

Year	Cash Flows					NPV	IRR (%)
	0	1	2	3	4		
Project 1	-100	36	36	36	36	14.12	16.37
Project 2	-100	0	0	0	175	19.53	15.02

What discount rate would result in the same NPV for both projects?

A A rate between 0.00 percent and 10.00 percent.
 B A rate between 10.00 percent and 15.02 percent.
 C A rate between 15.02 percent and 16.37 percent.

14 Wilson Flannery is concerned that this project has multiple IRRs.

Year	0	1	2	3
Cash flows	-50	100	0	-50

How many discount rates produce a zero NPV for this project?

A One, a discount rate of 0 percent.
 B Two, discount rates of 0 percent and 32 percent.
 C Two, discount rates of 0 percent and 62 percent.

解答:

这道题目做的时候直接画图做，找到交点的区间就可以。如果想要计算出来确切的数值，可以将 A 和 B 两个项目的每年现金流相减得到一组数据，再用计算器的 IRR 的计算方式进行计算就可以了。

2.5. 金融计算器使用

2.5.1. 问题描述：老师，我想问一下 $(1.03045)^n=4$ ，这个 n 怎么用计算器按出来呢。

2.5.2. 题目：无

解答：

要转为对数 \log 来计算。 $n=\log 4 \div \log 1.03045$ ； 计算器按法：4、LN、 \div 、1.03045、LN、 $=$ 。

求出来是 $n=46.2166$ （ \log 在计算器上表现为 LN，在第一列键）

这里补充一下， \log 是以任意数值为底的对数。但是 \ln 是以 e 为底的对数。这两个概念略有不同。

当然如果严格来说， \log 是以 a 为底的对数， a 要大于 0 且不等于 1，而 \ln 是以 e 为底的对数。至于 e 又被称为自然对数。 $e = \lim (1+1/n)^n$ 从数值上等于一个极限，极限中 n 趋于正无穷。

2.6. P-value

2.6.1. 问题描述：老师，在 P-value 中，为什么 P 值越小越拒绝？P 是 0-1 取值，越小越接近中心，而拒绝域在 2 边

2.6.2. 题目：无

解答：

这里 pvalue 指的是落在拒绝域两边的概率， $1-p$ 代表的是中心的概率哦。Pvalue 越小意味着这件事情发生的概率越小，但是还是发生了，证明这件事情并不是我最初所想的那么小概率，因此是需要拒绝的

2.7. 优先股形式的现金流折现

2.7.1. 问题描述：老师，想问一下数量的题，这个题解题步骤能写一下吗。

2.7.2. 题目

- 18 A perpetual preferred stock makes its first quarterly dividend payment of \$2.00 in five quarters. If the required annual rate of return is 6% compounded quarterly, the stock's present value is *closest to*:
- A \$31.
B \$126.
C \$133.

解答：

这道题有两种解法。一种是按 4 个季度复利折现，一种是先算出按季度计息的 EAR，然后一次性按年折现，两种方法都可以。这题的关键有两个：一个是按季度计息，所以年化的折现率 6% 要季度化，即除以 4。第二个关键要看到题干中的第一句话，first dividend paid in five quarter。in……是指在未来第五季度时，才开始付第一笔股利。所以第一笔股利发生在第五期，用永续年金的公式计算出的现值是第四期的价值，要再折现 4 期，才能折合到 0 时刻，计算出现值。

第一种方法：

永续年金的现值是 $2 / (0.06/4) = 133.33$ ，这个时间点其实是第 5 个 quarter 开始的时候，也就是第一年末。那么还要向前折现一年， $133.33 / ((1+0.015)^4)$ 。

第二种方法：

或者 $EAR = (1+0.06/4)^4 - 1 = 6.14\%$ ，再折现一年就是 $133.33 / 1.0614 = 125.62$

2.8. 现金流折现求和

2.8.1. 问题描述：本题不是按月计算复利吗？

2.8.2. 题目

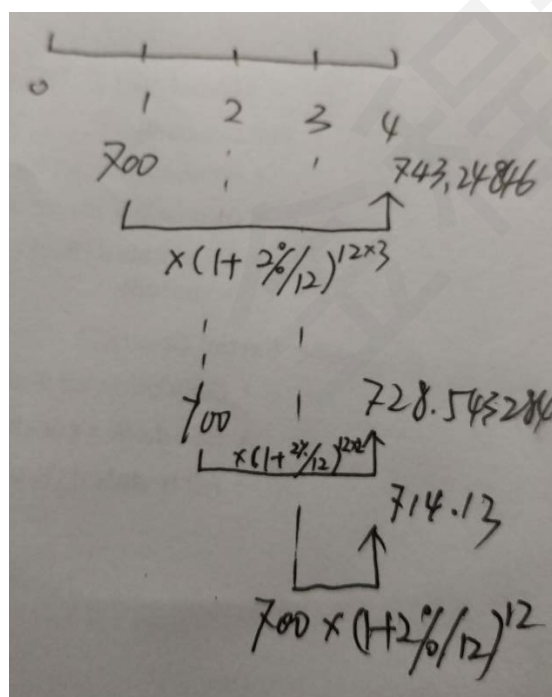
A client invests €20,000 in a four-year certificate of deposit (CD) that annually pays interest of 3.5%. The annual CD interest payments are automatically reinvested in a separate savings account at a stated annual interest rate of 2% compounded monthly. At maturity, the value of the combined asset is closest to:

- A. €21,670.
B. €22,890.
C. €22,950.

解答：

$ \begin{array}{c} \text{€20,000 initial deposit} \\ \hline \begin{array}{cccc} & & & \\ \text{€700} & \text{€700} & \text{€700} & \text{€700} \end{array} \end{array} $	
$ \begin{array}{c} \text{annual} \\ \text{interest payments} \\ \text{(which earn 2.0\%/year)} \\ + \\ \text{€20,000 (return of principal)} \end{array} $	
€20,000.00	CD
€743.25	First payment's FV
€728.54	Second payment's FV
€714.13	Third payment's FV
€700.00	Fourth payment's FV
<hr/>	
€22,885.92	Total FV

本题的难点在于，CD 是按年进行付息，所以每年年底收到 $20000 \times 3.5\% = 700$ 的现金流，但是收到的 700 是按月复利进行再投资，而且再投资收益率为 2%。所以首先按照答案画出 4 期的现金流，然后按月复利。对应的图片如下：



此时，每一笔 700 单独复利到 4 时刻，求出 FV，再加上本金 20000 即可。

如果要用计算器计算的话，可以用按月复利的 EAR 作为 I/Y。所以第一步，计算 $EAR = (1 + 2\%/12)^{12} - 1 = 2.02\%$ 。第二步用第三排建求解即可。

2.9. TWRR 和 MWRR

2.9.1. 问题描述: 老师, HPR2 不应该是 $30000+400-11000$ 再除 11000 吗, 同一道题用来计算 MWRR 时候 CF2 就按照 $30000+400$ 来考虑了? cf 就只考虑对应期限发生的 cf 就可以啊, cf1 在 MWRR 计算中也只考虑了 11000 和 200 ?

2.9.2. 题目

➤ An investor bought a fund with market value of \$10,000 at the beginning of 2015 ($t=0$). At the beginning of 2016 ($t=1$), he bought another share for \$11,000. And he sold both shares at the beginning of 2017 ($t=2$), and the market value of the fund was \$15,000 each. In addition, at the end of each year in the holding period, the stock offered a dividend of \$200 each.

● What is the fund's time-weighted rate of return?

$$HPR_1 = \frac{11,000 - 10,000 + 200}{10,000} = 12\%$$

$$HPR_2 = \frac{15,000 - 11,000 + 200}{11,000} = 38.18\%$$

$$TMRR = \sqrt{(1+12\%) \times (1+38.18\%)} - 1 = 24.40\%$$

➤ **Correct Answer:**

◆ **Example**

➤ An investor bought a fund at the beginning of 2015 ($t=0$) when the fund had a market value of \$10,000. At the beginning of 2016 ($t=1$), he bought another share for \$11,000. And he sold both shares at the beginning of 2017 ($t=2$), and the market value of the fund was \$15,000 each. In addition, at the end of each year in the holding period, the stock offered a dividend of \$200 each.

● What is the fund's money-weighted rate of return?

➤ **Correct Answer:**

- $CF_0 = -10,000$,
- $CF_1 = -11,000 + 200 = -10,800$,
- $CF_2 = 15,000 \times 2 + 200 \times 2 = 30,400$;
- CPT MWRR = IRR = 28.53%

已分为年化。

解答:

HPR2 不应该是 $30000+400-11000$ 再除 11000 ，answer 里是按单股计算的~总体应该是 $30,000+400-22,000$ 的差除以 $22,000$ ，计算结果与单只股票相同， PV_0 是 $22,000$ ，

年份	时间	流出 (Outflow)	流入 (Inflow)
2015	$t=0$	-10,000	
2016	$t=1$	-11,000	+200
2017	$t=2$		+15,000 + 200

$$HPR_1 = \frac{P_1 - P_0 + CF_1}{P_0} = \frac{11,000 - 10,000 + 200}{10,000} = 12\%$$

$$HPR_2 = \frac{P_2 - P_1 + CF_2}{P_1} = \frac{(15,000 - 11,000 + 200) \times 2}{11,000 \times 2} = 38.18\%$$

$$= \frac{(15,000 - 11,000 + 200)}{11,000}$$

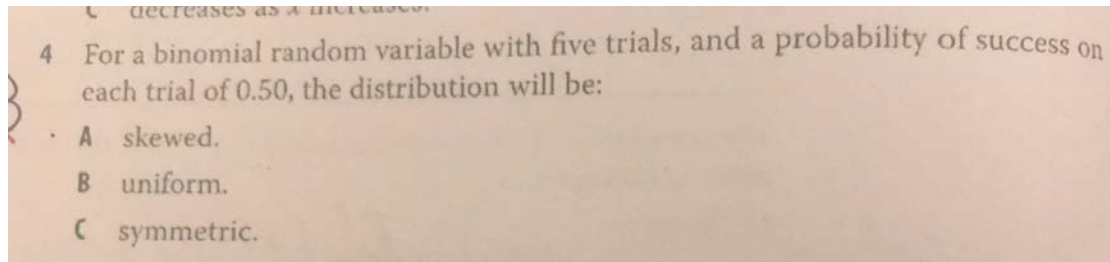
$$TMRR = [(1.12)(1.3818)] - 1 = 24.40\%$$

这个主要是因为是在追加投资的时候，一开始手上有一份基金，后来追加一份基金，所以从第二期开始手上就有两份基金了。

2.10. 二项分布

2.10.1. 问题描述：老师，第四题我很晕，在讲什么呀？

2.10.2. 题目



解答:

⇒ 相当于5次独立试验, 每次事件(A)发生概率为50%

5次中, 事件A发生:

$$0 \text{ 次: } C_5^0 \cdot 0.5^0 \cdot 0.5^5 = 1 \times 1 \times 0.03125 = 0.03125$$

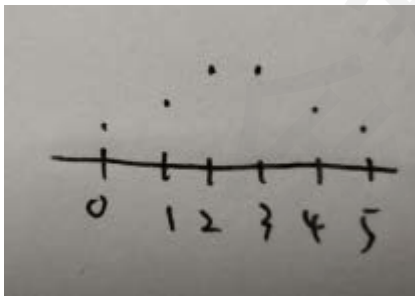
$$1 \text{ 次: } C_5^1 \cdot 0.5^1 \cdot 0.5^4 = 5 \times 0.5 \times 0.0625 = 0.15625$$

$$2 \text{ 次: } C_5^2 \cdot 0.5^2 \cdot 0.5^3 = 10 \times 0.25 \times 0.125 = 0.3125$$

$$3 \text{ 次: } C_5^3 \cdot 0.5^3 \cdot 0.5^2 = 10 \times 0.125 \times 0.25 = 0.3125$$

$$4 \text{ 次: } C_5^4 \cdot 0.5^4 \cdot 0.5^1 = 5 \times 0.0625 \times 0.5 = 0.15625$$

$$5 \text{ 次: } C_5^5 \cdot 0.5^5 \cdot 0.5^0 = 1 \times 0.03125 \times 1 = 0.03125$$



注意: 二项分布是离散点

2.11. 二项分布

2.11.1. 问题描述: 老师好, 今天数量的5道题, 第三题。为什么k值计算出来的是k=2呢?

我是用 $10\% - 4\% \cdot K \leq 8\% \leq 10\% + 4\% \cdot k$, 计算出来的 $k=0.5$ 然后再往下求解, 就算不出答案了。能麻烦讲解一下K值的求解过程吗? 答案里的解释没有看懂。谢谢!

2.11.2. 题目

3. For a distribution of 2,000 observations with finite variance, sample mean of 10.0%, and standard deviation of 4.0%, what is the minimum number of observations that will lie within 8.0% around the mean according to Chebyshev's Inequality?
- A. 720
B. 1,500
C. 1,680

解答：

这道题目是一道比较新颖的考题。这里要注意读题。题目问的是求均值周围 8% 的范围内的概率。如图：

The image shows a handwritten formula for Chebyshev's Inequality: $P(\mu - k\sigma \leq X \leq \mu + k\sigma) \geq 1 - \frac{1}{k^2}$. Below the formula, it says '其中 X 是任意值' (where X is any value). To the right, there is a diagram of a normal distribution curve with the mean μ in the center. Two points are marked on the curve: $-k\sigma$ on the left and $+k\sigma$ on the right. Below these points, the values -8% and $+8\%$ are written, indicating that $k\sigma = 8\%$.

依据切比雪夫不等式，描述的就是任意观测值 x 落在均值周围 k 倍标准差的概率

所以这道题目中相当于 k 倍标准差是 8%

已知一倍标准差是 4%，那么多少倍标准差是 8%呢？就是 2 倍，所以 k 等于 2

所以这题的公式应该是 $k \times \sigma = 8\%$ 已知 σ 标准差是 4%，所以 k 等于 2

2.12. 年金类型现金流嵌套

2.12.1. 问题描述：嗯是的，第一步原版书用后付年金算出的 $PV = 70919$ ，其实就等于讲义里用 BGN 模式求出的 $PV = 74465$ 。这个我理解了。接下来第二步，假设原版书题干也是给定 18 期的话，也就是都用 N 等于 18 的话，那第二步的计算结果也和讲义里不一致。

2.12.2. 题目

- A client plans to send a child to college for four years starting 18 years from now. Having set aside money for tuition, she decides to plan for room and board also. She estimates these costs at \$20,000 per year, payable at the beginning of each year, by the time her child goes to college. If she starts next year and makes 18 payments into a saving account paying 5 percent annually, what annual payments must she make?

8. A client plans to send a child to college for four years starting 18 years from now. Having set aside money for tuition, she decides to plan for room and board also. She estimates these costs at \$20,000 per year, payable at the beginning of each year, by the time her child goes to college. If she starts next year and makes 17 payments into a savings account paying 5 percent annually, what annual payments must she make?

解答:

不对哦，如果你用的是后付年金的模式的话，相当于你最后一笔 payment 是在 18 这个时点，但是你未来学费的现值 PV 是在 17 这个时点，这两个时点不是同一个，所以就不能用 $PV=FV$ 那个方法进行第二次计算了。

所以如果是 18 的话，后面一定要是一个先付年金才可以。

就是要用讲义上的那个方法。BNG 和 END 模式要分清楚哦~

2.13. 胜算

2.13.1. 问题描述: 老师，我想问一下，这个 3/8 是咋来的？怎么说呢，就是那个 8。我知道 odds for，是 3+5 么

2.13.2. 题目

> $P(A) = 0.5$, $P(B) = 0.5$, odds for concurrent A and B is $3/5$, the relationship between A and B?

A. Dependent. 不独立
 B. Independent.
 C. Mutually exclusive.

Correct Answer: A.

Odds for $P(AB) = P(AB)/(1 - P(AB)) = 3/5$, solve for $P(AB) = 3/8 \neq P(A) \times P(B)$

$$\frac{P(AB)}{1 - P(AB)} = \frac{3}{5}$$

$$P(AB) = \frac{3}{8} \neq P(A) \times P(B)$$

$$\neq P(A) + P(B)$$

解答:

odds for (A和B同时发生) 的概率 = $3/5$
 Concurrent

$P(AB) : (1 - P(AB)) = 3 : 5$

求出 $P(AB) = 3/8$

$$\frac{P(AB)}{1 - P(AB)} = \frac{3}{5}$$

$$3 - 3P(AB) = 5P(AB)$$

$$3 = 8P(AB)$$

$$P(AB) = \frac{3}{8}$$

注意题目中的表述，不要被 concurrent 这个词语难住。

2.14. HPR 持有期收益率

2.14.1. 问题描述: 老师好，百题中 HPR 的分母应该是期初 PV_0 值，这题看答案，是不是要把现金流的部分也理解为期初值？

2.14.2. 题目

26-36

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- Q-18.** An investor is reviewing the performance of his portfolio manager over the last four quarters. The outflows and inflows to the portfolio was made at the ending of each quarter. The table below summarize the inflows and outflows as well as the valuation of the portfolio. The ending value is the portfolio's value just after the cash inflow or outflow at the beginning of the quarter. What is the time-weighted rate of return of the portfolio?

Quarter	Beginning value	Cash inflows or outflows at the beginning of the quarter	Ending value
1	800,000	40,000	1,100,000

6-87

此预测为考点预测，考题仅为复习参考
内部使用资料，严禁传播，否则追究法律责任

2	1,100,000	60,000	1,300,000
3	1,300,000	-80,000	1,500,000
4	1,500,000	100,000	1,500,000

- A. 69.16%
B. 77.88%
C. 85.00%

Q-18. Solution: A.

First, calculate the holding period return of each quarter:

$$HPR_1 = (1,100,000 - 40,000 - 800,000) / (800,000 + 40,000) = 30.95\%$$

$$HPR_2 = (1,300,000 - 60,000 - 1,100,000) / (1,100,000 + 60,000) = 12.07\%$$

$$HPR_3 = (1,500,000 + 80,000 - 1,300,000) / (1,300,000 - 80,000) = 22.95\%$$

$$HPR_4 = (1,500,000 - 100,000 - 1,500,000) / (1,500,000 + 100,000) = -6.25\%$$

Then, calculate the time-weighted rate of return.

$$TWRR = (1+30.95\%) \times (1+12.07\%) \times (1+22.95\%) \times (1-6.25\%) - 1 = 69.16\%$$

解答：

因为现金流发生在期初，要灵活运用 HPR 的公式哦~

2.15. 先付和后付年金转化

2.15.1. 问题描述：老师，不太理解为啥要乘 1.05？

2.15.2. 题目

27-36

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周一/9.9

1. **Solution: B.** *先付年金*

PV of a 10-year annuity due is simply the PV of the ordinary annuity multiplied by 1.05:

PV = \$15,443.47 × 1.05

PV = \$16,215.64.

周一/9.9

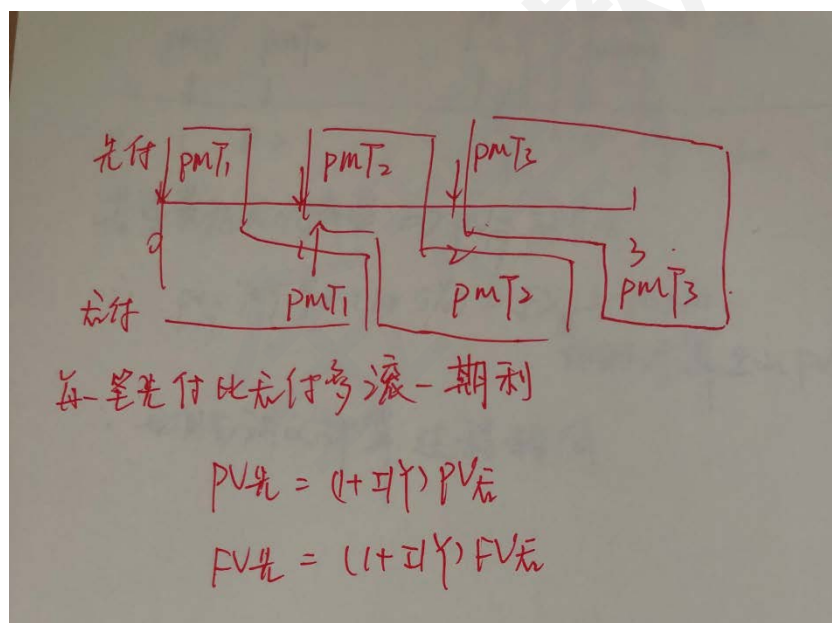
1. At a 5% interest rate per year compounded annually, the present value (PV) of a 10-year ordinary annuity with annual payments of \$2,000 is \$15,443.47. The PV of a 10-year annuity due with the same interest rate and payments is closest to:

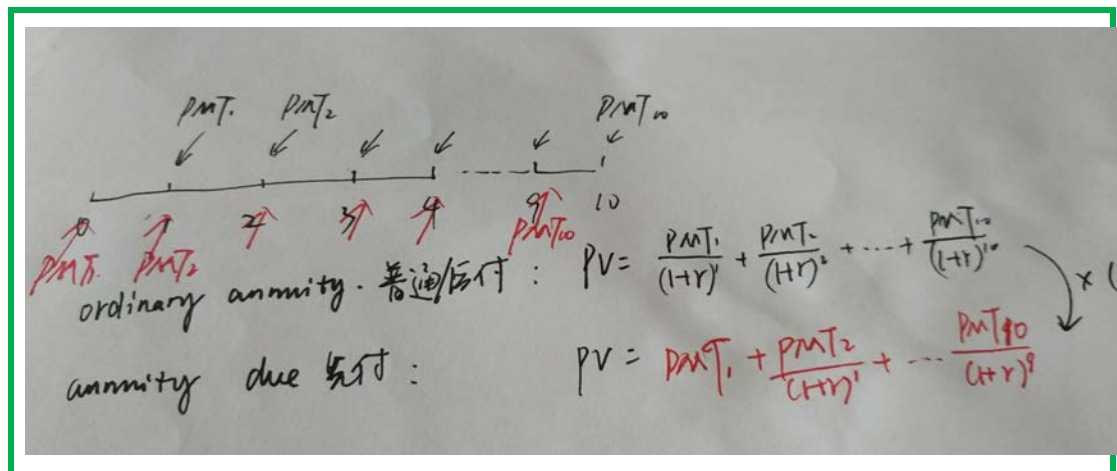
B

A. \$14,708.
B. \$16,216.
C. \$17,443.

Handwritten notes:
PMT = 2000
PV = 15443.47
I/Y = 5%
PMT = 2000
I/Y =

解答:

先付年金和后付年金，两者相差 $1+r$ 倍

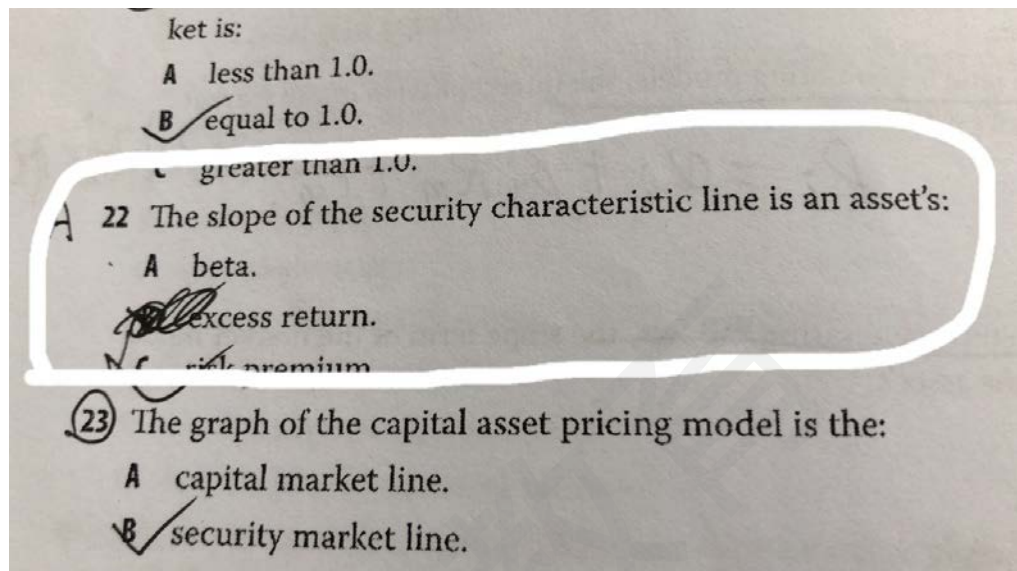


3. 组合

3.1. SML 斜率

3.1.1. 问题描述: 请问 课上老师推导 sml 的斜率是 $r_m - r_f$ 而答案给的是 beta 这题是不是答案有误?

3.1.2. 题目:



解答:

题目问的是证券特征线 SCL 而不是证券市场线 SML 哦, 证券市场线的斜率是风险溢价没错, 但是证券特征线横轴是风险溢价, 纵轴是收益率, 斜率是 beta 哦。

3.2. CAPM

3.2.1. 问题描述: 老师 那如果个股和大盘的 beta 系数很低 那么是不是意味着 capm 不是有效估算收益率的工具?

3.2.2. 题目: 无

3.3. Safety first ratio

3.3.1. 问题描述: 无

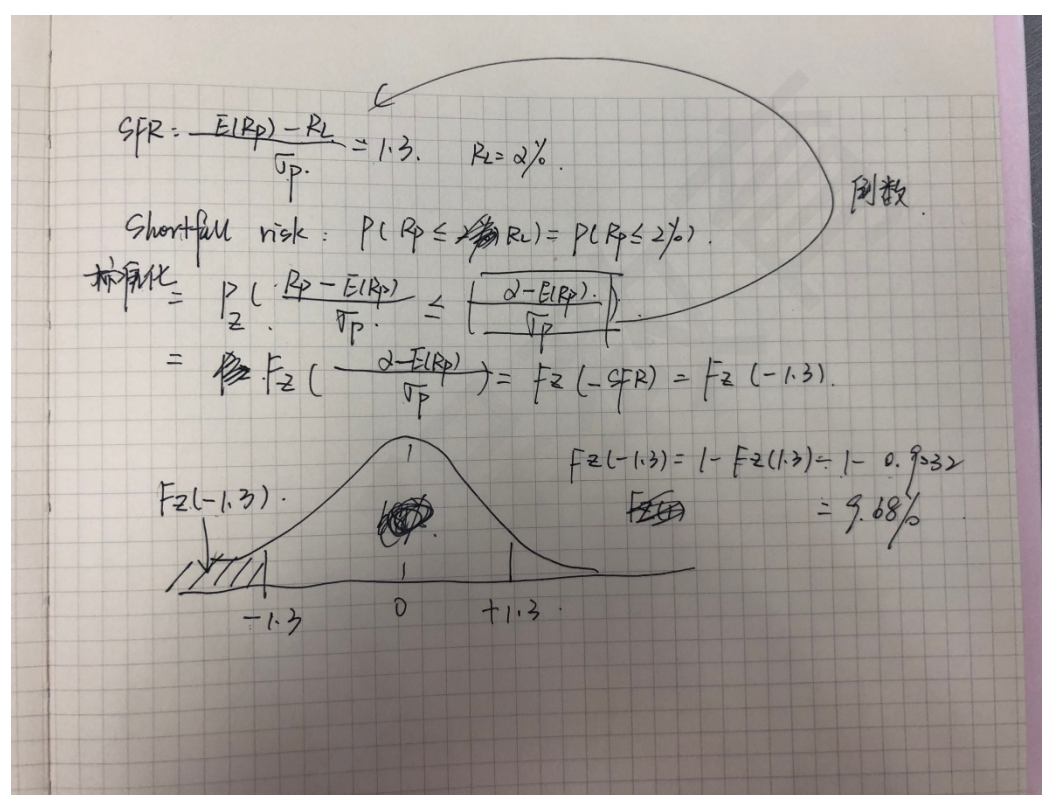
3.3.2. 题目

Portfolio A has a safety-first ratio of 1.3 with a threshold return of 2%. What the shortfall risk for a threshold return of 2%?

- A. 9.68%
- B. 40.30%.
- C. 90.30%.

解答:

同学你好, 这题主要考查 SFR 的定义, 与正态分布的结合。通常情况下, 我们假设 portfolio 的收益率是服从正态分布的, 此时要求 shortfall risk for a threshold return of 2%?, 其实就是求 $P(R_p \leq 2\%)$ 的概率。而依据 SFR 其实是可以求出均值、标准差与 threshold return 之间的关系的, 也就是标准化后的 Z 值。

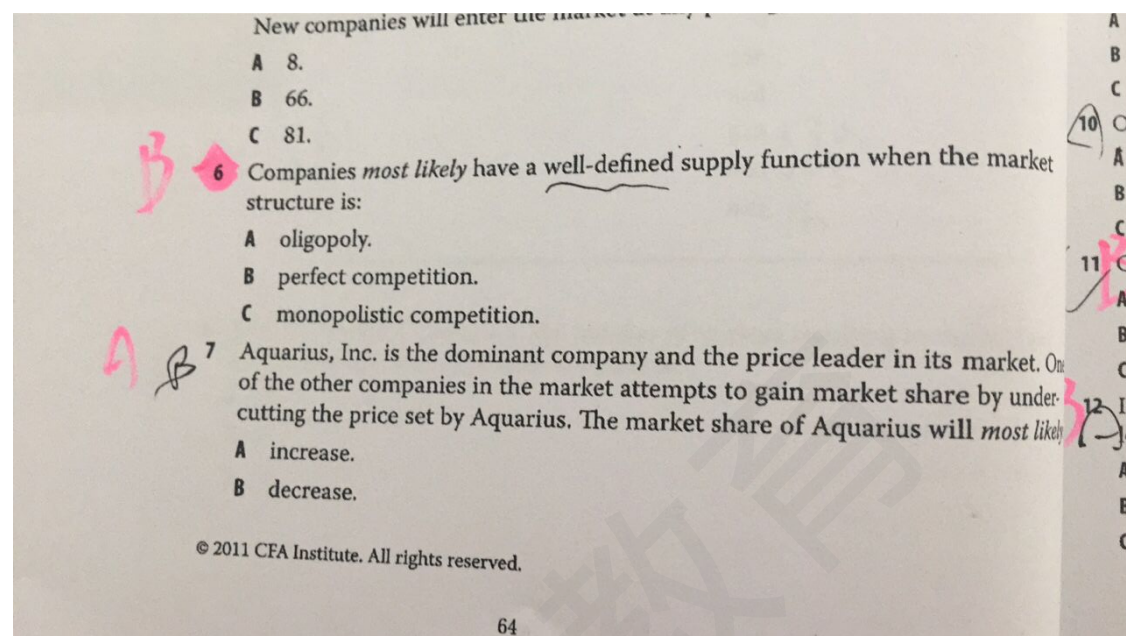


4. 经济学

4.1. Supply curve

4.1.1. 问题描述：经济学第六题。welldefined 是什么意思

4.1.2. 题目



解答：

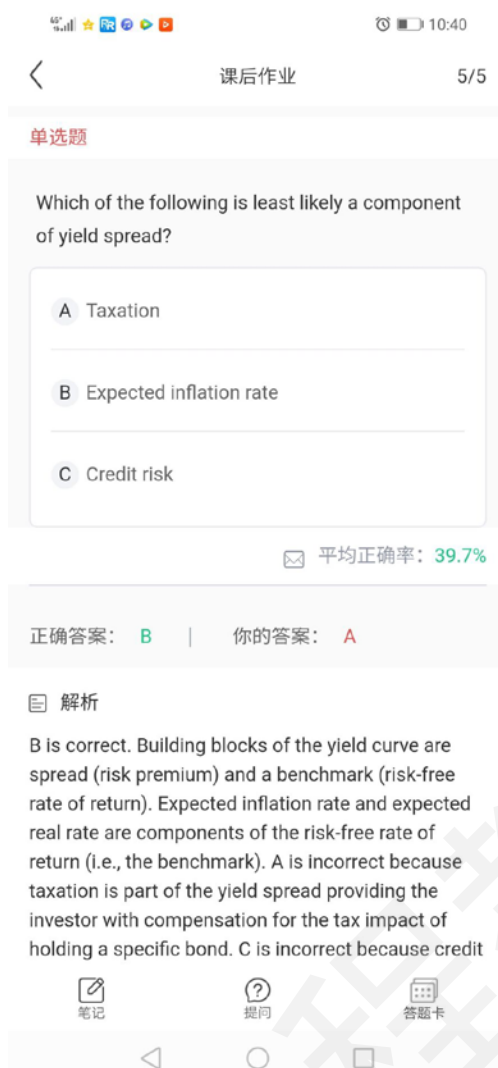
就是有明确定义清楚的供给曲线。因为只有完全竞争市场我们能够明确知道它的供给曲线，因为这个市场是 price taker，只能被动接受价格，但是其他市场或多或少厂商都有自主定价权，supply curve 较难确定。所以 supply curve 不能明确画出。不是被确定了就能画出供给曲线，而是价格不是由 supplier 确定的才可以画出来供给曲线，因为这个价格是由市场自主决定的，但是如果 supplier 有定价权，意味着这一部分不光市场确定，同时 supplier 有定价的选择权，这时就不能说可定义。

5. 固收

5.1. Spread

5.1.1. 问题描述：请问这道题中 tax 是如何影响 spread，助教老师说是不影响，跟答案冲突了

5.1.2. 题目：



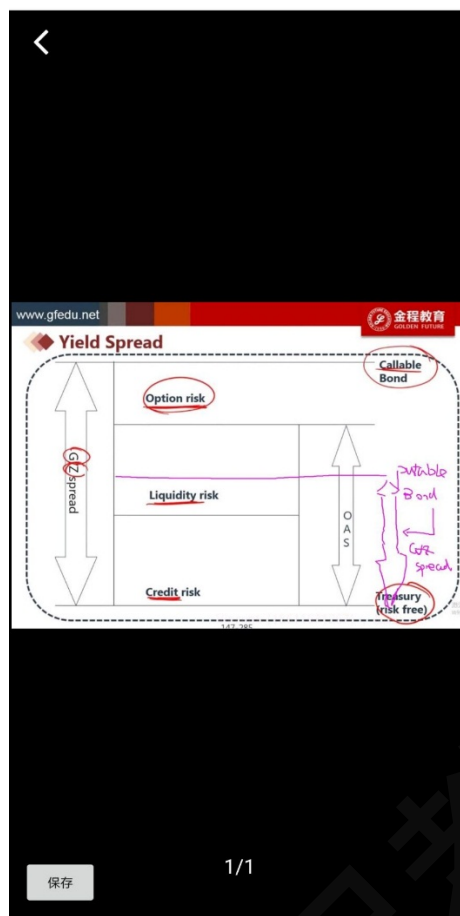
解答:

tax 是影响 spread, 税率或者不同的税法是会影响投资者的要求回报率的。简单来说, 税率越高, 我的要求回报率往往更大, 因为我同样要达到我的目标回报。

5.2. Option cost 计算

5.2.1. 问题描述: 计算 option cost 的时候是即能用 g 也能用 z 吗?

5.2.2. 题目



解答：

是的。

5.3. 4C 信用分析

5.3.1. 问题描述：Net capital expenditure 是怎么算出来的

5.3.2. 题目：无

解答：

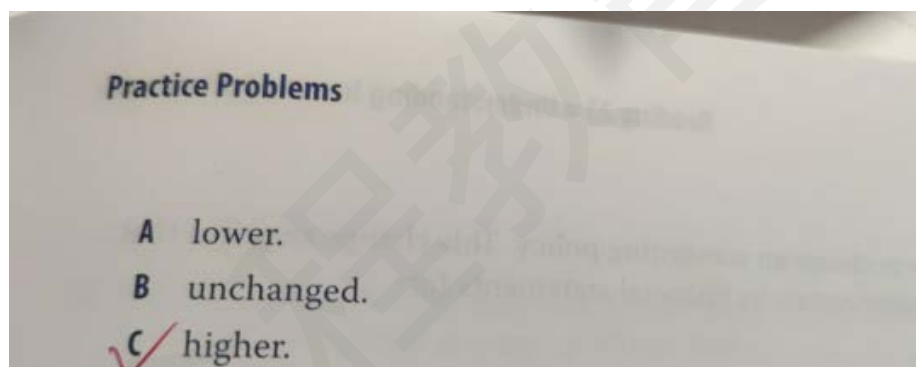
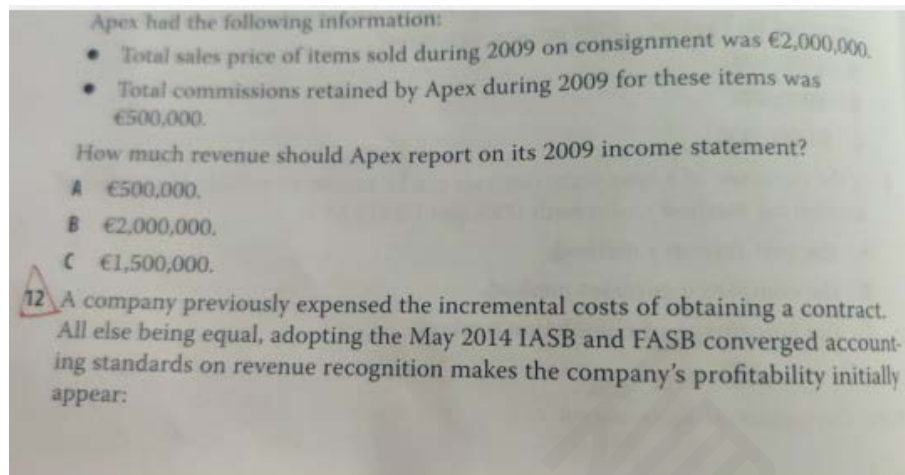
Net capital expenditure 就是长期投资。一般可以看成处置长期资产收到的钱与购买必要长期资产支付的钱的差值。

6. 财务报表分析

6.1. 费用化资本化

6.1.1. 问题描述：就是公司对成本费用化，不应该是利润会低么。

6.1.2. 题目



解答：

这里是说这样做使得公司原来的利润怎么样，initial 对应的是公司开始时费用化的处理。这个公司之前是费用化处理的，可以从 previous 看出，因为取得合同会带来未来经济利益的流入，所以可以做资本化处理。资本化处理会导致净利润的上升。

6.2. 融资租赁

6.2.1. 问题描述：老师想问一下，融资租赁的 base 法则，为什么不体现折旧费用。

6.2.2. 题目

解答：

利息费用是费用科目的，收入和费用都是进利润表的。利息影响了负债的 base 法则，折旧是资产的折旧，所以不会影响负债的 base 法则。。

金程教育