1.The risk department at an investment firm has been asked to evaluate the impact of environmental, social, and governance (ESG) factors on some of its fund investments. In regard to climate change, the staff has determined that climate change does present a risk that is important, and possibly very large, but they cannot currently calculate the risk. Among the following four classic risks (which constitute part of the second building block in GARP risk management process: Analyze), which most accurately describes the firm's orientation toward climate change?
A.Expected loss
B.Unexpected loss
C.Knightian uncertainty
D.Unknown unknown
参考答案：C
【莽学解析】The answer is Knightian uncertainty, because to the firm it is "known unknown". Knight distinguished between variability that cannot be quantified at all, which he called uncertainty, and "true" risk that can be quantified in terms of statistical science. Incalculable Knightian uncertainties can be very large and important. Nuclear war is a major threat to the world, but its chances of happening are impossible to estimate.答案是奈特式不确定性，因为对企业而言，它是“已知的未知”。 奈特区分了根本无法量化的可变性（他称之为不确定性）和可以根据统计科学量化的“真实”风险。 不可估量的奈特式不确定性可能非常大且重要。 核战争是对世界的主要威胁，但其发生的可能性无法估计。

2.Which of the following is not a traditional credit risk mitigation approach used by banks?
A.Marking-to-market
B.Call feature
C.Exposure netting
D.Loan syndication
参考答案：B
【莽学解析】Marking-to-market, exposure netting, and loan syndication are all mechanisms that banks use to mitigate credit risk. They also might use a termination clause. A call feature could be used to protect an issuer from interest rate risk, but not credit risk.市场定价，敞口净额结算和银团贷款都是银行用来减轻信贷风险的机制。 他们还可以使用终止条款。 可赎回条件可以用来保护发行人免受利率风险的影响，但不能保护其信用风险。

3.Suppose three factors have been identified for the U.S. economy: the growth rate of industrial production (IP), the inflation rate (IR), and the excess return of 30-year Treasury bonds over T-bills (TB). IP is expected to be 4.0%, IR is expected to be 3.0%, and TB is expected to be 2.0%. A stock that is expected to provide a rate of return of 9.0% has a beta of 0.8 on IP, a beta of 0.6 on IR, and a beta of 0.5 on TB. If industrial production (IP) actually grows by 5.0%, the inflation rate (IR) turns out to be 2.0%, and the excess long-term Treasury bond (TB) is realized as 2.0%, what is the revised estimate of the expected rate of return on the stock?
A.8.80%
B.9.20%
C.10.30%

D.11.50%
参考答案：B
【莽学解析】

$$9.0\% + [0.8 \cdot (5.0\% - 4.0\%)] + [0.6 \cdot (2.0\% - 3.0\%)] + [0.5 \cdot (2.0\% - 2.0\%)] = 9.2\%$$

4.Let's assume a firm's investors are exposed either to systematic or firm-specific (idiosyncratic, non-systematic) risk. Do the firm's equity investors want its managers to hedge risk?
A.Always, if the firm strategy is to retain the risk.
B.Never, unless hedging enables managers to meet short-term targets linked to their compensation.
C.No, if the investor is diversified and financial markets are perfect and frictionless.
D.Yes, if the investor is diversified and the strategy is sufficiently complex to suit the investor.
参考答案：C
【莽学解析】When markets are perfect and there are no frictions,in theory, internal risk management adds value neither by hedging systematic nor idiosyncratic risks. The value of hedging is revealed by market imperfections (e.g., cost of financial distress) and frictions; e.g., taxes.从理论上讲，当市场完美无摩擦时，内部风险管理既不会通过规避系统风险也不会通过特殊风险来增加价值。 对冲的价值在于市场的不完善（例如财务困境的成本）和摩擦， 例如税收。

5.Each of the following is an assumption of the arbitrage pricing model (APM) EXCEPT for:
A.Homogeneous expectations
B.A security (stock) is linearly related to a set of indexes (factors).
C.Investors utilize a mean-variance framework.
D.Error terms are uncorrelated.
参考答案：C
【莽学解析】Arbitrage pricing theory is a new and different approach to determining asset prices. It is based on the law of one price: two items that are the same can't sell at different prices. The strong assumptions made about utility theory in deriving the CAPM are not necessary. In fact, the APT description of equilibrium is more general than that provided by a CAPM-type model in that pricing can be affected by influences beyond simply means and variances. An assumption of homogeneous expectations is necessary. The assumption of investors utilizing a mean variance framework is replaced by an assumption of the process generating security returns. APT requires that the returns on any stock be linearly related to a set of indexes. 套利定价理论是一种确定资产价格的新方法。它基于一个价格定律：两个相同的商品不能以不同的价格出售。 在推导CAPM时，无需对效用理论做出强有力的假设。 实际上，APT对均衡的描述比CAPM类型的模型更为笼统，因为定价可能受到除均值和方差之外的其他因素影响。均质期望的假设是必要的。 投资者利用均值方差框架的假设被产生证券收益的过程的假设所代替。 APT要求任何股票的收益与一组指数线性相关。

6.Which of the following statements regarding the responsibilities of the chief risk officer (CRO) is least accurate?
A.The CRO should provide the vision for the organization\u2019s risk management.

B.The CRO may have a solid line reporting to the CEO or a dotted line reporting to the CEO and the board.
C.In addition to providing overall leadership for risk, the CRO should communicate the organization\u2019s risk profile to stakeholders.
D.Although the CRO is responsible for top-level risk management, he is not responsible for the analytical or systems capabilities for risk management.
参考答案：D
【莽学解析】While it is accurate that the CRO is responsible for top-level risk management, he is also responsible for the analytical or systems capabilities for risk management.首席风险官是风险管理的最高层领导，要对风险管理系统的分析能力进行负责。

7.Which of the following tasks regarding risk appetite would be reasonably performed by an organization's Board of Directors? I.Develop the organization's risk appetite statement.
II.Determine if the risk appetite may cause risks in other areas of the organization.
A.I only
B.II only
C.Both I and II
D.Neither I nor II
参考答案：B
【莽学解析】Developing the organization's risk appetite statement is the responsibility of management. It is the Board's role to review and provide appropriate feedback on management's work with regard to the risk appetite statement. Determining if the risk appetite may cause risks in other areas of the organization is consistent with the Board's oversight role.制定组织的风险偏好表述是管理层的责任。 董事会的职责是审查和提供有关风险偏好声明的管理层工作的适当反馈。确定风险偏好是否会在组织的其他领域造成风险与董事会的监督职责一致。

8.Which of the following statements regarding market, credit, and operational risk is correct?
A.People risk relates to the risk associated with incompetence and lack of suitable training of internal employees and\/or external individuals.
B.Between two counterparties, presettlement risk is always higher than settlement risk.
C.Options are examples of financial instruments with non-directional risks.
D.Funding liquidity risk results from a large position size forcing transactions to influence the price of securities.
参考答案：C
【莽学解析】People risk relates to the risk associated with fraud perpetrated by internal employees and/or external individuals. It does not relate to incompetence and lack of suitable training. Presettlement risk is lower than settlement risk because the former allows for offsetting of payments while the latter requires settlement of the full value of payments. Non-directional risks have non-linear exposures to changes in economic or financial variables which is clearly the case with options. Asset-liquidity risk (not funding liquidity risk) results from a large position size forcing transactions to influence the price of securities.人员风险指的是内部员工和/或外部人员进行欺诈相关的风险。它与人员的无能和缺乏适当的培训无关。预先结算风险低于结算风险，因为前者允许抵消付款，而后者则要求结算全部付款。非指向性风险对经济或金融变量的变化具有非线性风险，这对期权而言尤为明显。资产流动性风险（不是资金流动性风险）是由于头寸规模过大而迫使交易影响证券价格而造成的。

9.Which of the following statements regarding the responsibilities of the chief risk officer (CRO) is least accurate?
A.The CRO should provide the vision for the organization's risk management.
B.In addition to providing overall leadership for risk, the CRO should communicate the organization's risk profile to stakeholders.
C.Although the CRO is responsible for top-level risk management, he is not responsible for the analytical or systems capabilities for risk management.
D.The CRO may have a solid line reporting to the CEO or a dotted line reporting to the CEO and the board.
参考答案：C
【莽学解析】While it is accurate that the CRO is responsible for top-level risk management, he is also responsible for the analytical or systems capabilities for risk management.尽管CRO负责高层风险管理是准确的，但他还负责风险管理的分析性或系统性功能。

10.From the perspective of a bank，which of the following is not an advantage of using a collateralized debt obligation (CDO) to transfer credit risk?
A.Bank profitability can be accelerated due to higher loan turnover.
B.Credit risk is effectively transferred to investors.
C.There will always be a market for CDO products.
D.A larger pool of potential borrowers will exist due to less concern for lending (underwriting) standards.
参考答案：C
【莽学解析】Collateralized debt obligations transfer creditrisk from banks to investors. This process enables banks to accelerate the loanorigination cycle and therefore enjoy potentially higher profitability due tosourcing more loans than would otherwise be accessible. The pool of potentialborrowers is increased because banks are less concerned with lending standards.However，when investors lose interest in CDO products due tohigher-than-expected default rates，the loan originator (the bank)can be stuck with a large amount of credit risk on their balance sheet.抵押债务义务将信用风险从银行转移给投资者。 此过程使银行可以加快贷款的发起周期，并因此通过采购比其他方式可获取的更多的贷款而享有更高的获利能力。 潜在借款人的数量增加了，因为银行不太关心贷款标准。 但是，当投资者因违约率高于预期而对CDO产品失去兴趣时，贷款发起人（银行）可能会在其资产负债表中承受大量信用风险。

11.Which of the following statements regarding risk and risk management is correct?
A.Risk management is more concerned with unexpected losses versus expected losses.
B.There is a relationship between the amount of risk taken and the size of the potential loss.
C.The final step of the risk management process involves developing a risk mitigation strategy.
D.If executed properly, the risk management process may allow for risk elimination within an economy.
参考答案：A
【莽学解析】Risk management is more concerned with the variability of losses, especially ones that could rise to unexpectedly high levels or ones that suddenly occur that were not anticipated (unexpected losses).风险管理更关注损失的可变性，尤其是那些可能上升到意外高水平的损失或突然发生的不能被提前预见的损失（意外损失）。

12.Which of the following statements regarding risk appetite and risk tolerance is correct?

I.Risk appetite directly impacts the allocation of resources. II.Risk tolerance is a measure of an organization's ability to take risk.

A.I only

B.II only

C.Both I and II

D.Neither I nor II

参考答案：C

【莽学解析】Risk appetite directly impacts the allocation of resources. Risk tolerance is a measure of an organization's willingness to take risk.风险偏好直接影响资源分配。 风险承受能力是衡量组织冒险意愿的度量。

13.Consider the following three well-diversified portfolios that exist in a single-factor economy:

Riskfree rate 1.0%

Portfolio	$E(r)$	Beta
A	9.0%	1.60
B	7.0%	1.10
C	4.0%	0.60

Is there an arbitrage opportunity?

A.No, all three well-diversified portfolios plot on the security market line.

B.Yes, an arbitrage includes buying portfolio (A) and selling a combination of (B) and (C).

C.Yes, an arbitrage includes buying portfolio (B) and selling a combination of (A) and (C).

D.Yes, an arbitrage includes buying portfolio (C) and selling a combination of (A) and (B).

参考答案：C

【莽学解析】There is no arbitrage opportunity if all three well-diversified portfolios plot on the security market line (SML). This can be tested by calculating their respective Treynor ratios.Treynor(A)=(9.0%-1.0%)/1.60=0.050Treynor(B)=(7.0%-1.0%)/1.10=0.0545Treynor(C)=(4.0%-1.0%)/0.60=0.0500ur arbitrage is to buy the "cheap" Portfolio B (with the higher Treynor) and sell the "expensive" blend of Portfolios (A) and (C). 如果所有三个完全分散的投资组合都位于证券市场线（SML）上，则没有套利机会。可以通过计算它们各自的特雷诺比率进行判断。 Treynor(A)=(9.0%-1.0%)/1.60=0.050 Treynor(B)=(7.0%-1.0%)/1.10=0.0545 Treynor(C)=(4.0%-1.0%)/0.60=0.050 我们的套利是购买“便宜”的投资组合B（具有较高的特雷诺比率），并出售投资组合（A）和（C）的“昂贵”组合。

14.Which component is NOT in the APT model?

A.Factor exposure

B.Factor return

C.Factor correlations

D.Specific (idiosyncratic) return

参考答案：C

【莽学解析】APT gives expected return (first moment) as a linear combination of factors in

which correlation does not enter; rather, correlation impacts variance/volatility (second moment). APT给出了预期收益（一阶矩），该收益是不涉及相关性的因素的线性组合；相反，相关性会影响方差/波动率（二阶矩）。

15.Melody Li is a junior risk analyst who has recently prepared a report on the advantages and disadvantages of hedging risk exposures. An excerpt from her report contains four statements. Which of Li’s statements is correct?
A.Purchasing an insurance policy is an example of hedging.
B.In practice, hedging with derivatives is not likely to be a zero-sum game.
C.The existence of significant costs of financial distress and bankruptcy is considered within the assumption of perfect capital markets.
D.Hedging with derivatives is advantageous in the sense that there is often the ability to avoid numerous disclosure requirements compared with other financial instruments.
参考答案：B
【莽学解析】Thecomplexity of derivatives pricing means the pricing may not always be asaccurate as possible so it will not always reflect all of the relevant riskfactors. As a result, in practice, hedging with derivatives may not be azero-sum game of transferring risk between periods or between participants.Choice A is not correct because hedging involves the use of financialderivatives and insuring involves the use of insurance policies; an insurancepolicy is not considered a financial instrument in the same sense as aderivatives instrument. Choice C is not correct because the existence ofsignificant costs of financial distress and bankruptcy is contrary to theassumption of perfect capital markets. Choice D is not correct because hedgingwith derivatives will require disclosure, including some operationalinformation that the firm may otherwise prefer to keep private. 衍生产品定价的复杂性意味着定价可能并不总是尽可能准确，因此也不一定总是反映所有相关的风险因素。 结果，在实践中，使用衍生工具进行对冲可能不是在期间之间或参与者之间转移风险的零和游戏。 选择A是不正确的，因为对冲涉及金融衍生品的使用，而保险涉及保险单的使用； 保险单与衍生工具的含义不同，则不视为金融工具。 选择C是不正确的，因为存在巨大的财务困境和破产成本，这与完善资本市场的假设背道而驰。 选项D是不正确的，因为对衍生工具进行套期保值将要求披露，包括一些公司可能宁愿保持私有的操作信息。

16.Which of the following statements regarding corporate risk governance is correct?
A.Management of the organization is ultimately responsible for risk oversight.
B.A risk committee is useful for enforcing the firm\u2019s risk governance principles.
C.Effective risk governance requires multiple levels of accountability and authority.
D.The point of risk governance is to minimize the amount of risk taken by the organization.
参考答案：B
【莽学解析】The Board of Directors is ultimately responsible for risk oversight. Effective risk governance simply requires clear accountability, authority, and methods of communication; it is not necessary to have multiple levels. The point of risk governance is to consider the methods in which risk-taking is permitted, optimized, and monitored; it is not necessarily to minimize the amount of risk taken. The real point of risk governance is to increase the value of the organization from the perspective of the shareholders and/or stakeholders.111董事会最终负责风险监督。有效的风险治理仅要求明确的问责制，权限和沟通方法；不必具有多个级别。风险治理的重点是考虑允许、优化和监督接受风险的方法；不一定要最大程度地降低风险承担。风险治理的真正意义是从股东和/或利益相关者的角度来增加组织的价值。

17.How is APT different from CAPM?
A.APT is a linear model.
B.APT is a factor model.
C.APT cannot use a market-related factor (CAPM beta is a market factor).
D.APT can use a small group of securities.
参考答案：D
【莽学解析】Both are linear factor models. In regard, to (C), APT can use market-related, macro, fundamental, firm-specific, and/or statistical factors. But (D) is a key difference: APT does not require that a market portfolio of all risky assets. Recall this requirement is a critical weakness of CAPM. The APT is marvelously flexible. We can concentrate on any desired group of stocks. Among any group of N stocks, there will be an efficient frontier for portfolios made up of the N risky stocks. 两者都是线性因子模型。 关于（C），APT可以使用与市场相关的，宏观的，基本的，公司特定的和/或统计因素。 但是（D）是主要区别：APT不需要所有风险资产的市场投资组合。回想一下此要求是CAPM的一个关键弱点。 APT非常灵活。 我们可以专注于任何所需的股票组。在任何N组股票中，由N个风险股票组成的投资组合都将具有有效的边界

18.The classic risk management process affirms the job of a risk manager to include four activities: identifying risks; analyzing and measuring risks; assessing the impact of risk events; managing risks. This process culminates in the series of decisions as to how to handle identified risks. Which of the following is (TRUE as) a common activity of the risk manager?
A.To either avoid or transfer each risk.
B.To quantify every risk in an exact way.
C.To eliminate each risk to the fullest extent possible.
D.To help identify where the firm should add risk.
参考答案：D
【莽学解析】The risk management process culminates in a series of choices that both manage risk and help to define the identity and purpose of the firm.风险管理过程最终产生一系列选择，既可以管理风险，又可以帮助定义公司的身份和宗旨。

19.Each of the following is a responsibility of the board of directors EXCEPT which is not?
A.Assess the fundamental risks and rewards engendered in the firm's business strategy.
B.Ascertain whether any major transaction undertaken by the firm is consistent with the authorized risk and associated business strategies.
C.Ensure each board member has day-to-day involvement in the firm's risk-taking activities and can analyze the firm's financial condition.
D.Assess whether the firm has put an effective risk management system in place that enables it to further its strategic objectives within the confines of its risk appetite.
参考答案：C
【莽学解析】Board members cannot realistically have day-to-day involvement; also, the majority of boards do not require every board member to be able to analyze the firm's financial condition. Board members have different expertise, experiences, and skills to bring. Of course, the board must have some members who can analyze the firm's financial conditions, but in general, at least some board members will not possess this expertise but instead contribute other skills and experiences; e.g., industry experience, innovative (innovation) contributions, strategic thinking, sales/marketing experience, networks/connections, leadership (human capital) development capabilities, or diversity.董事会成员不能实际参与日常工作； 同样，大多数董

事会并不需要每个董事会成员都能够分析公司的财务状况。 董事会成员具有不同的专业知识，经验和技能。当然，董事会必须有一些可以分析公司财务状况的成员，但总的来说，至少一些董事会成员将不具备这种专业知识，而是贡献其他技能和经验。 例如，行业经验，创新（创新）贡献，战略思维，销售/营销经验，网络/联系，领导力（人力资本）发展能力或多样性。

20.Which of the following is not a strength of the securitization process?
A.Enhances credit product access for low-quality borrowers
B.Credit risk can be distributed to multiple market participants
C.Enables a transparent four-step process
D.Enables borrowers to lower their borrowing costs
参考答案：C
【莽学解析】The securitization process enhances loan access forlow-quality borrowers. It also gives borrowers access to additional creditproducts at lower borrowing costs. Banks using an OTD model get higher fees forsourcing loans with higher interest rates. Investors get access tohigher-yielding loan products as long as default rates are not an issue. Thecore of this process is to distribute credit risk to multiple marketparticipants. The securitization process is not transparent.证券化过程增加了低质量借款人的贷款渠道。 它还使借款人能够以较低的借贷成本获得更多的信贷产品。 使用OTD模型的银行获得更高利率的贷款可获得更高的费用。 只要违约率不成问题，投资者就可以使用收益较高的贷款产品。 此过程的核心是将信用风险分配给多个市场参与者。 证券化过程并不透明。

21.In a single-factor economy, each of the following portfolios (A, B, and C) is well-diversified:

Riskfree rate	3.0%
Volatility of market index, σ[M]	30.0%

Portfolio	Beta	E[R(i)]	σ[e(i)]
A	0.60	12.0%	10.0%
B	0.80	15.0%	25.0%
C	1.20	???	42.0%

Youdiscover there is NOT an arbitrage strategy among these three portfolios. Inthis case, what should be the expected return of Portfolio (C)?
A.13.3%
B.16.3%
C.18.5%
D.21.0%
参考答案：D
【莽学解析】All three portfolios must lie on the same SML such that Portfolio C's Treynor ratio must be the same as the others.Treynor(Portfolio A) = (12.0%-3.0%)/0.60 = 0.15

Tryenor(Portfolio B) = (15.0%-3.0%)/0.80 = 0.15Treynor(Portfolio C) = (R - 3.0%)/1.20 = 0.15 We can get R = 21%, which means the return must be 21.0%. 所有三个投资组合必须位于同一SML上，以使投资组合C的特雷诺比率与其他投资组合相同。 Treynor(Portfolio A) = (12.0% - 3.0%)/0.60 = 0.15 Tryenor(Portfolio B) = (15.0% - 3.0%)/0.80 = 0.15 Treynor(Portfolio C) = (R - 3.0%)/1.20 = 0.15 可以算出R = 21%, 也就是C的预期收益率是21.0%.

22.Allen Richards sits on the board of directors of a Canadian financial institution. Richards read the following statements in a presentation made to the board of directors by management on the institution's risk culture:Statement 1: "As long as managers at business-line levels have the same risk appetite as the overall firm, the risk tolerance of the business-line employees is irrelevant."Statement 2: "Hiring a chief risk officer will fix the risk culture problems we face at this institution."Richards believes both of these statements are incorrect. Richards's assessment is accurate with respect to

A.statement 1 only.

B.statement 2 only.

C.both statements.

D.neither statement.

参考答案：C

【莽学解析】Richards is correct with respect to both statements in that both statements are incorrect. Risk culture must infuse the entire organization, not simply business-line managers. Hiring a chief risk officer might signal a change in culture but will not "fix" all the risk culture problems. It might be perceived as window dressing or rebranding, with no real changes occurring with respect to the risk appetite and risk tolerances of the firm.理查兹对两个陈述都是正确的，因为两个陈述都不正确。 风险文化必须注入整个组织，而不仅仅是业务线经理。 雇用首席风险官可能预示着文化的变化，但不会解决所有风险文化的问题。 它可能被视为橱窗装饰或品牌重塑，而公司的风险承受能力和风险承受能力并未发生任何实际变化。

23.

An arbitrage pricing model (APT) characterizes excess security returns as a linear function of two indexes, $I(1)$ and $I(2)$. In this way, a security's excess retum in percentage terms, $ER(i)$, is given by $ER(i) = R(i) - Rf = a + b(1) \cdot I(1) + b(2) \cdot I(2)$, where $b(i)$ is the factor sensitivity to the index, l(i). We observe three securities that fit the APT model, as follows:

Security 1: $\mathrm{ER}(1) = \mathrm{a} + 2.0 \cdot \mathrm{I}(1) + 3.0 \cdot \mathrm{I}(2) = 8.0$

Security 2: $\mathrm{ER}(2) = a + 4.0 \cdot \mathrm{I}(1) + 2.5 \cdot \mathrm{I}(2) = 3.5$

Security 3: $\mathrm{ER}(3) = \mathrm{a} + 1.0 \cdot \mathrm{I}(1) - 2.0 \cdot \mathrm{I}(2) = -5.5$

A.E(Ri)=1.0+2.5*b(1)+3.0*b(2)
B.E(Ri)=2.0-1.5*b(1)+3.0*b(2)
C.E(Ri)=3.0+0.5*b(1)+0.5*b(2)
D.E(Ri)=4.0-3.0*b(1)-1.0*b(2)
参考答案：B
【莽学解析】We have three variables and three equations:

$$a+2.0\cdot I(1)+3.0\cdot I(2)=8.0$$

$$a+4.0\cdot I(1)+2.5\cdot I(2)=3.5$$

$$a+1.0\cdot I(1)-2.0\cdot I(2)=-5.5$$

Solving these equations we can get: I(1)=-1.5, I(2)=3, a=2. So the model is:

$$ER(i)=2.0-1.5\cdot b(1)+3.0\cdot b(2)$$

这个问题其实就是解三元一次方程组：可以解出：I(1)=-1.5, I(2)=3, a=2. 所以这个模型是：

24.Tail risk techniques are dealt by
A.Extreme Value Theory.
B.VaR Theory.
C.Probably of Default Theory.
D.standard deviation.
参考答案：A
【莽学解析】Extreme Value Theory.极值理论

25.Your colleague Robert uses a two-factor model in order to estimate the volatility of a portfolio. He specifies the covariance matrix as follows:

	Equity Factor	Bond Factor
Equity Factor	**0.09000**	**0.07200**
Bond Factor	**0.07200**	**0.16000**

The Portfolio has the following factor sensitivities (i.e., betas): 0.60 to the Global Equity Factor and 0.25 to the Global Bond Factor. The volatility of the Portfolio is nearest to which value?
A.16.44%
B.18.60%
C.21.15%
D.25.30%
参考答案：D
【莽学解析】

$$\sigma_p = \sqrt{\left(0.6^2 \times 0.09 + 0.25^2 \times 0.16 + 2 \times 0.6 \times 0.25 \times 0.072\right)}$$
$$= 25.3\%$$

26.Peter Parker, FRM, is identifying risk factors for the construction of his multifactor APT model. His colleague Barbara gives him the following four pieces of advice. Each of the following is a good or reasonable statement about a multifactor APT model EXCEPT which is not?
A.He should restrict himself to a limited number of systematic factors with considerable ability to explain security returns.
B.He should choose factors that are likely to be important as major sources of uncertainty; i.e., factors that concern investors sufficiently that they will demand meaningful risk premiums to bear exposure to those sources of risk.
C.He should exclude factors that produce negative factor risk premiums as they lack narrative credibility.
D.The model may retain a firm-specific (non-systemic) component, like the single-index model, which has an expected value of zero.
参考答案：C
【莽学解析】One difference between a single- and multiple-factor economy is that a factor risk premium can be negative. For example, a security with a positive interest rate beta performs better when rates increase, and thus would hedge the value of a portfolio against interest rate risk. Investors might well accept a lower rate of return, that is, a negative risk premium, as the cost of this hedging attribute.单因素和多因素经济之间的区别是，因素风险溢价可能为负。 例如，利率上升时，具有正β利率的证券表现更好，因此可以对冲利率风险的投资组合价值。 投资者很可能接受较低的收益率，即负风险溢价，作为这种对冲属性的成本。

27.Sally Smith, FRM, is considering a switch in the theoretical basis of her risk model from a simple single-factor capital asset pricing model (CAPM) to a multi-factor arbitrage pricing theory (APT) model. To her manager, she claims the following differences between the two models. Each of her statements below is correct EXCEPT which is not?
A.Compared to only one specific factor (i.e., market index) in the simple CAPM, the APT model will be able to recognize multiple systematic risk factors.
B.While the CAPM requires a mean-variance efficient market portfolio and assumes normally distributed returns, APT requires neither of these assumptions.
C.Although APT does not require several of the restrictive assumptions of the CAPM, it is largely silent on where to look for priced sources of risk.
D.In contrast to the simple CAPM, the APT cannot include the market index as a common factor, nor can it be extended over multiple periods.
参考答案：D
【莽学解析】Both components are false: APT can include the market portfolio as a common factor; and APT can be extended over multiple periodsIn regard to A, B and C, each is true.这两个成分都是错误的：APT可以将市场组合作为共同因素，并且APT可以延长多个时期。关于A，B和C，每个都是正确的。

28.Firms commonly incentivize their management to increase the firm's value by granting managers securities tied to the firm's stock. Some securities, however, can reduce managerial

incentives to manage risk within the firm. Which is likely the best example of this type of security?
A.Deep in-the-money call option on the firm's stock.
B.At-the-money call option on the firm's stock.
C.Deep out-of-the-money call option on the firm's stock.
D.Long position in the firm's stock.
参考答案：C
【莽学解析】Deep out-of-the-money calls have no value unless the firm value increases substantially, so providing deep out-of-the-money calls as an incentive could cause managers to take substantially higher risks and perform less hedging.除非公司价值显着增加，否则深度虚值看涨期权没有价值。因此提供大量的现金外交易作为激励，可能会导致管理人员承担更高的风险和采取更少的对冲。

29.Krista Skujins, FRM, is the CFO of a manufacturing firm. She is currently in the process of diversifying the firm's investment portfolio by varying the correlations and asset classes among securities. Diversification is best characterized as which of the following risk treatments?
A.Risk avoidance
B.Risk transfer
C.Risk retention
D.Risk reduction
参考答案：D
【莽学解析】Diversification is a risk reduction technique.多元化是一种降低风险的技术。

30.Which of the following is TRUE about the relationship between the CAPM and the arbitrage pricing model (APT)?
A.CAPM assumes that the market is the only source of covariance between returns.
B.If we employ a procedure (e.g., Roll and Ross) and identify more than one common factor, we can logically reject the CAPM.
C.Similar to the CAPM, in order to test the APT we need to identify a "Market Portfolio" of all risky assets.
D.The APT solution with multiple factors appropriately priced is fully consistent with the form of the CAPM.
参考答案：D
【莽学解析】The simplest case in which an APT model is consistent with the simple form of the CAPM is the case where the return-generating function is of the form: R(i) = alpha(i) + beta(i)*R（ ） + e(i). The APT solution with multiple factors appropriately priced is fully consistent with the form of the CAPM. We wish to stress this point. Employing the Roll and Ross procedure and finding that more than one common factor is significantly different from zero is not sufficient proof to reject any CAPM. APT模型与CAPM的简单形式一致的最简单情况是：R（i）=alpha（i）＋beta（i）* R（ ）＋e（i）。 定价合理的多因素APT理论与CAPM的形式完全一致。我们希望强调这一点。采用Rolland Ross程序并发现一个以上的公因子与零显着不同，不足以证明它不能拒绝任何形式的CAPM模型

31.In regard to limits policies, optimal risk governance requires the ability to link risk appetite and limits to specific business practices. Accordingly, appropriate limits need to be

developed for each business as well as for the specific risks associated with the business (as well as for the entire portfolio of the enterprise). Most institutions set two types of limits, tier I and tier II limits. About these limits, which of the following is TRUE?
A.Firms should choose and either adopt tier I or tier II limits but not both simultaneously
B.Tier I limit exceedances must be cleared or corrected immediately, while tier II exceedances are less urgent and can be cleared within a few days or a week.
C.Tier II limits are specific and often include an overall limit by asset class, an overall stress-test limit, and a maximum drawdown limit.
D.Tier I limits are more generalized and relate to areas of business activity as well as aggregated exposures categorized by credit rating, industry, maturity, and region.
参考答案：B
【莽学解析】Tier I limit exceedances must be cleared or corrected immediately, while tier II exceedances are less urgent and can be cleared within a few days or a week.Most institutions set two types of limits. Tier I limits are specific and often include an overall limit by asset class, an overall stress-test limit, and a maximum drawdown limit. Tier II limits are more generalized and relate to areas of business activity as well as aggregated exposures categorized by credit rating, industry, maturity, region, and so on. 超出第一层限额必须立即澄清或更正，而超出第二层限额则不太紧急，可以在几天或一周内处理。 大多数机构设定两种限额。 第一层限额是特定的，通常包括按资产类别划分的总限制，总的压力测试限制和最大跌幅限制。 第二级限额更一般化，涉及业务活动领域以及按信用等级，行业，到期日，地区等分类的汇总风险敞口。

32.Jennifer Durant is evaluating the existing risk management system of Silverman Asset Management. She is asked to match the following events to the corresponding type of risk. Identify each numbered event as a market risk, credit risk, operational risk, or legal risk event. Event: 1. Insufficient training leads to misuse of order management system. 2. Credit spreads widen following recent bankruptcies. 3. Option writer does not have the resources required to honor a contract. 4. Credit swaps with counterparty cannot be netted because they originated in multiple jurisdictions.
A.1: legal risk, 2: credit risk, 3: operational risk, 4: credit risk
B.1: operational risk, 2: credit risk, 3: operational risk, 4: legal risk
C.1: operational risk, 2: market risk, 3: credit risk, 4: legal risk
D.1: operational risk, 2: market risk, 3: operational risk, 4: legal risk
参考答案：C
【莽学解析】Insufficient training lead to misuse of order management system is an example of operational risk.Widening of credit spreads represents an increase in market risk. An option writer not honoring the obligation in a contract is a credit risk event. When a contract is originated in multiple jurisdictions leading to problems with enforceability, there is legal risk.由于人的操作带来的风险是典型的操作风险。市场上企业纷纷倒闭导致整体经济环境恶化，这是市场风险而不是信用风险。期权的卖方没有足够的资产去履行义务而违约属于信用风险。由于法律限制而产生的风险属于法律风险。

33.Generally speaking, if the reward is high, the risk:
A.is low.
B.is high.
C.constant.
D.cannot determined.

参考答案：B
【莽学解析】If the reward is high, the risk is high too.如果回报很高，那么风险也很高。

34.

			Growth	Bond	Size	ROE	ERP
	Factor Forecasts	**2.0%**	**2.5%**	**−1.5%**	**0.0%**	**6.0%**	
			Standardized Exposures				
Stock	Industry	Factor Loadings or Factor Forecast	Growth	Bond	Size	ROE	Beta
Amex	FinServices	6.0%	0.20	-0.10	0.20	-0.30	1.20
AT&T	Telephones	6.0%	-0.20	0.80	1.50	-0.60	0.80
Chevron	Energy	6.0%	-0.60	-0.30	0.90	-0.70	0.70
Coca-Cola	Food	6.0%	0.00	0.30	1.40	1.50	1.00
Disney	Entertain	6.0%	0.10	-0.90	0.70	0.40	1.10
Dow	Chemical	8.0%	-0.60	-0.90	0.50	0.20	1.10

Please note: Two industry classifications: expected excess return is 8.0% for the chemical industry and 6.0% for all other industries. The factor forecasts are (top row): 2.0% for Growth, 2.5% for Bond, -1.5% for Size, and 0.0% for ROE. The CAPM excess market return is 6.0%.What is the APT forecast for AT&T?
A.4.80%
B.5.35%
C.6.00%
D.6.25%
参考答案：B
【莽学解析】

$$6\%\,\text{industry} + (-0.20 \times 2.0\%) + (0.80 \times 2.5\%) + (1.5 \times -1.5\%) + (-0.60 \times 0\%) = 5.35\%$$

35.According to GARP, "a recent trend among corporations is to use a board-approved risk appetite to guide management and (potentially) to inform investors." Which of the following statements is TRUE about the firm's risk appetite?
A.Risk appetite is the total amount of risk a firm can bear without becoming insolvent.
B.In practice, the risk appetite should be focused on a single thing: one broad, durable philosophical statement that avoids linkages to the firm's day-to-day risk management operations because these are bound to change.
C.Although risk appetite has an upper bound (an upper trigger), it is similar to a one-sided confidence interval: there is no such thing as a lower bound (a lower trigger) for risk appetite given that less risk is better.
D.A risk appetite includes the mechanisms (e.g., detailed policy, business-specific risk statements, and a framework for risk limits) that link a top-level statement to the firm's day-to-day risk management operations.
参考答案：D

【莽学解析】In regard to A, B and C, each is FALSE. Risk capacity is the total amount of risk a firm can bear withoutbecoming insolvent In practice, the risk appetite is two things, a top-level statement andthe sum of the mechanisms linking this statement to the firm's day-to-dayoperations. Riskappetite is bounded on the upside (below risk capacity) but also has a lowerbound: the firm does not aspire to be risk-free. A,B,C均错误。 风险承受能力是企业在不破产的情况下可以承受的全部风险。 在实践中，风险承受能力是包括两方面，一是高层的陈述，另一方面是将该陈述与公司的日常运营联系起来的机制的一个综合考虑结果。 风险偏好的上升空间有限（低于风险承受能力），但也有一个较低的界限：企业并不渴望无风险。

36.Suppose an analyst examines expected return for the Broad Band Company (BBC) base on a 2-factor model. Initially, the expected return for BBC equals 10%. The analyst identifies GDP and 10-year interest rates as the two factors for the factor model. Assume the following data is used: *GDP growth consensus forecast = 6% *Interest rate consensus forecast = 3% *GDP factor beta for BBC = 1.5 *Interest rate factor beta for BBC = -1.00 Suppose GDP ends up growing 5% and the 10-year interest rate ends up equaling 4%. Also assume that during the period, the Broad Band Company unexpectedly experiences shortage of key inputs, causing its revenues to be less than originally expected. Consequently, the firm-specific return is -2% during the period. Using the 2-factor model with the revised data, which of the following expected returns for BBC is correct?

A.1.5%

B.3.5%

C.5.5%

D.6.5%

参考答案：C

【莽学解析】Calculation process is shown as the following: 计算过程如下：

$$R_{BBC} = E(R_{BBC}) + \beta_{BBC,GDP}F_{GDP} + \beta_{BBC,IR}F_{IR} + e_{BBC}$$

$$R_{BBC} = 0.10 + 1.5(-0.01) - 1(0.01) - 0.02 = 0.055 = 5.5\%$$

37.

			Growth	Bond	Size	ROE	ERP
	Factor Forecasts		2.0%	2.5%	-1.5%	0.0%	6.0%
			Standardized Exposures (Factor Loadings or Factor Betas)				
Stock	Industry	Forecast	Growth	Bond	Size	ROE	Beta
Amex	FinServices	6.0%	0.20	-0.10	0.20	-0.30	1.20
AT&T	Telephones	6.0%	-0.20	0.80	1.50	-0.60	0.80
Chevron	Energy	6.0%	-0.60	-0.30	0.90	-0.70	0.70
Coca-Cola	Food	6.0%	0.00	0.30	1.40	1.50	1.00
Disney	Entertain	6.0%	0.10	-0.90	0.70	0.40	1.10
Dow	Chemical	8.0%	-0.60	-0.90	0.50	0.20	1.10

Please note: Two industry classifications: expected excess return is 8.0% for the chemical

industry and 6.0% for all other industries. The factor forecasts are (top row): 2.0% for Growth, 2.5% for Bond, -1.5% for Size, and 0.0% for ROE. The CAPM excess market return is 6.0%.What is the CAPM forecast for AT&T?

A.4.80%

B.5.35%

C.6.00%

D.6.25%

参考答案：A

【莽学解析】

$$0.8 \text{ beta} \times 6.0\% \text{ ERP} = 4.80\% \text{ excess return}$$

38.An analyst is estimating the sensitivity of the return of stock A to different macroeconomic factors. He prepares the following estimates for the factor betas:

$$\beta_{\text{Industrial production}} = 1.3 \quad \beta_{\text{Interest rate}} = -0.75$$

Under baseline expectations, with industrial production growth of 3% and an interest rate of 1.5%, the expected return for Stock A is estimated to be 5%. The economic research department is forecasting an acceleration of economic activity for the following year, with GDP forecast to grow 4.2% and interest rates increasing 25 basis points to 1.75%. What return of Stock A can be expected for next year according to this forecast?

A.4.8%

B.6.4%

C.6.8%

D.7.8%

参考答案：B

【莽学解析】

The expected return for Stock A equals the expected return for the stock under the baseline scenario, plus the impact of "shocks", or excess returns of, both factors. Since the baseline scenario incorporates 3% industrial production growth and a 1.5% interest rate, the "shocks" are 1.2% for the GDP factor and 0.25% for the interest rate factor.

Therefore the expected return for the new scenario

$$= \text{Baseline scenario expected return} + \beta_{\text{industrial production}} \times \text{Industrial production shock} + \beta_{\text{interest rate}} \times \text{Interest rate shock}$$

$$= 5\% + (1.3 \times 1.2\%) + (-0.75 \times 0.25\%) = 6.37\%$$

股票A的预期收益等于基准情景下股票的预期收益，加上两个因素的“冲击”或超额收益的影响。 由于基准情景包含了3%的工业生产增长率和1.5%的利率，因此“冲击”是GDP因子的1.2%，和利率因子的0.25%。因此，新方案的预期收益=5% ＋(1.3×1.2%) ＋(－0.75×0.25%)=6.37%

39.The risk that a country will not repay its debt is:

A.Transfer risk
B.Sovereign risk
C.Repayment risk
D.Recovery rate risk
参考答案：B
【莽学解析】Sovereign risk is country specific risk relating to a country’s actions; therefore, the risk that a country will not repay its debt is a sovereign risk.主权风险是与国家行为相关的特定国家风险； 因此，一国不偿还债务的风险是主权风险。

40.To hedge risk, the firm's toolbox includes derivatives such as swaps, futures, forwards, and options. About the use of derivatives to hedge, each of the following is true EXCEPT which is inaccurate?
A.Derivatives represent a decision to transfer (or mitigate) the risk（ ） when the firm either wants to retain or avoid the risk.
B.Because hedging can only mute the volatility of accrual-based earnings, hedging cannot increase (or even alter) the firm's cash flows and therefore cannot influence agency risks.
C.A large conglomerate (i.e., a firm with multiple business units operating in different industries\/sectors) is more likely to create natural hedges than a small, focused firm.
D.Airlines can cross-hedge the cost of jet fuel with futures contracts on (crude or heating) oil, but if the commodity's price drops rapidly, unhedged airlines are likely to outperform their hedged competitors.
参考答案：B
【莽学解析】Hedging can make sense for investors if it is used as a tool to increase the firm's cash flows (rather than to reduce equity investor risk). For example, firms may need to offer their customers a stable price over the next three years, which may be impossible without hedging a key cost input. If hedging like this increases customer demand, then equity investors are happy . Equity investors are also happy if the firm uses hedging to reduce its tax bill. Again, hedging has the effect of increasing after-tax revenues. Finally, equity investors are not the only stakeholders, and certainly not the only decision-makers. Managers, regulators, and general staff expect the firm to be financially sound and protected from sudden mishaps. Less legitimately, managers may use hedging to ensure their firm meets key short-term targets (e.g., stock analyst expectations) that affect their prestige and compensation. Risk managers need to pay close attention to how derivatives can leverage agency risks.如果将对冲用作增加公司现金流量（而不是降低股权投资者的风险）的工具，对投资者来说就有意义。 例如，企业可能需要在未来三年中为客户提供稳定的价格，而这可能是不对冲关键成本投入的情况。 如果这样的对冲增加了客户需求，那么股票投资者就会高兴。 如果公司使用对冲来减少其税单，股票投资者也将感到高兴。 同样，对冲增加了税后收入。 最后，股权投资者不是唯一的利益相关者，当然也不是唯一的决策者。 经理，监管人员和一般员工期望公司财务状况良好，并免受突发事故的影响。 有一种不太合法的操作是，管理人员可能会使用对冲来确保公司达到影响其声望和薪酬的关键短期目标（例如，股票分析师的期望）。 风险管理人员需要密切注意衍生产品可能会产生代理风险。

41.There are many reasons why risk management increases shareholder wealth. Which of the following risk management policies is least likely to increase shareholder wealth?
A.Hedging strategies to lower the probability of financial distress and bankruptcy.
B.Risk management policies designed to reduce the probability of debt overhang.
C.Well-designed compensation structure for managers that sets incentives for managers to take

appropriate risks.
D.Risk management policies to eliminate projects with high volatility.
参考答案：D
【莽学解析】The first three are examples of where risk management can increase firm value. The last one is invalid because eliminate projects with high volatility may eliminate projects with extremely high payoffs.前三个是风险管理可以增加公司价值的示例。 最后一个不对，因为消除具有高波动性的项目可能消除具有极高收益的项目。

42.The involvement of the board of directors is important within the context of a firm's decision to hedge specific risk factors. Which of the following statements regarding the setting of risk appetite is correct? I. Risk appetite may be conveyed strictly in a qualitative manner. II. Debtholders and shareholders are both likely to desire minimizing the firm's risk appetite.
A.I only.
B.II only.
C.Both I and II.
D.Neither I nor II.
参考答案：A
【莽学解析】Risk appetite may be conveyed in a qualitative and/or quantitative manner, therefore, qualitative alone may be acceptable.风险偏好可以以定性和/或定量的方式传达，因此，仅定性是可以接受的。

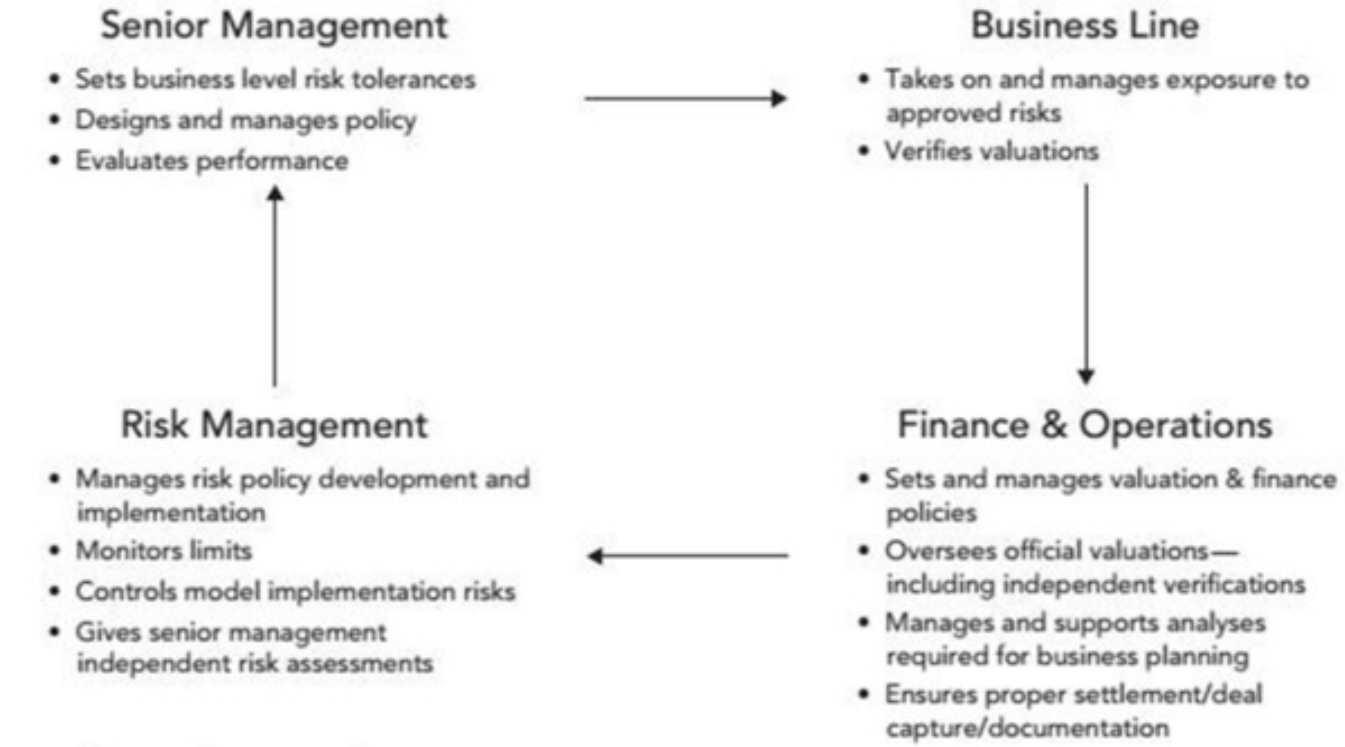
43.A big part of a risk manager's job is to identify her firm's risk factors. Each of the following statements about risk factors is true EXCEPT which is false?
A.Two examples of primary risk factors include the return on a broad stock market index and the risk-free spot interest rate.
B.For any risk factors that are represented by categorical or discrete variables, the risk manager should seek to replace them with either interval, ratio, or continuous risk factor variables.
C.One of the risk manager's key activities is to deconstruct primitive risk factors into the important loss drivers, the relationship of the loss drivers with each other, and the wider business environment.
D.Machine learning, as a subset of artificial intelligence, holds the potential to help risk managers identify the "unknown unknowns".
参考答案：B
【莽学解析】Instead, many risk factors are characterized by categorical or discrete variables.In terms of option D, GARP writes, "Across the risk industries, massive computing power can now help risk managers spot patterns and relationships in data more quickly. Unsupervised machine learning can help the risk manager identify the unknown unknowns through identifying clusters and correlations without specifying the area of interest in advance. Risk managers are about to enter an age of plenty in terms of data volume and risk factor analysis."相反，许多风险因素的特征是分类变量或离散变量。 关于选项D，GARP写道：“在整个风险行业中，强大的计算能力现在可以帮助风险管理人员更快地发现数据中的模式和关系。无监督机器学习可以帮助风险管理人员通过识别聚类和相关性来识别未知的未知数，而无需预先指定感兴趣的领域。就数据量和风险因素分析而言，风险管理者将进入一个新时代。”

44.A key but new (recent) mechanism for risk governance is the risk advisory director. Which of the following BEST summarizes the function of a risk advisor director?
A.To ensure the accuracy of the bank\u2019s financial and regulatory reporting, and the bank's compliance with minimum or best-practice standards in other key activities; e.g., regulatory, legal, compliance, and risk management activities.
B.To improve the overall efficiency and effectiveness of the senior risk committees and the audit committee, as well as the independence and quality of risk oversight by the main board.
C.To be responsible for independently reviewing the identification, measurement, monitoring, and controlling of credit, market, and liquidity risks, including the adequacy of policy guidelines and systems.
D.To design and implement the incentive pay and compensation schemes for executives and staff.
参考答案：B
【莽学解析】Not all board members will have the skills to determine the financial condition of a complex risk-taking corporation such as a bank (or an insurance company, or an energy company). This is especially likely if the selection of non-executives on the board is designed to include non-executives who come from outside the firm's industry and are truly independent of the corporation. This is a problem because many of the recent corporate governance scandals have shown that it is easy for executives to bamboozle non-executives who lack the skills to ask probing questions, or to understand the answers to these questions in a rigorous manner.One approach is for the board to gain the support of a specialist risk advisory director--that is, a member of the board (not necessarily a voting member) who specializes in risk matters. An advisory director works to improve the overall efficiency and effectiveness of the senior risk committees and the audit committee, as well as the independence and quality of risk oversight by the main board.并非所有董事会成员都具有确定复杂风险承担公司（例如银行（或保险公司或能源公司））财务状况的技能。如果董事会中非执行董事包括来自公司行业以外的，真正独立于公司的，则这种情况尤其可能发生。这是一个问题，因为最近的许多公司治理丑闻表明，高管们很容易发现公司里有一些缺乏探究问题能力或理解回答公众问题技巧的非执行董事。一种方法是让董事会获得专业风险咨询总监的支持-即专门从事风险事务的董事会成员抽取成员担任职位（不一定是有表决权的成员）。咨询总监致力于提高高级风险委员会和审计委员会的整体效率和效力，以及提高董事会风险监督的独立性和质量。

45.John Diamond is evaluating the existing risk management system of Rome Asset Management and identified the following two risks. I Rome Asset Management's derivative pricing model consistently undervalues call options. II Swaps with counterparties exceed counterparty credit limit. These two risks are most likely to be classified as:
A.Market risk
B.Credit risk
C.Liquidity risk
D.Operational risk
参考答案：D
【莽学解析】I is a model failure and II is an internal operational failure. These are types of operational risks.I是模型失效，II是内部操作的失败。这些都是操作风险的类型。

46.Risk management requires interdependence among the function units with a firm. We can refer to four groups: senior management, business line, risk management, and finance and operations. Which of the following is the responsibility of risk management?
A.Sets business-level risk tolerance.

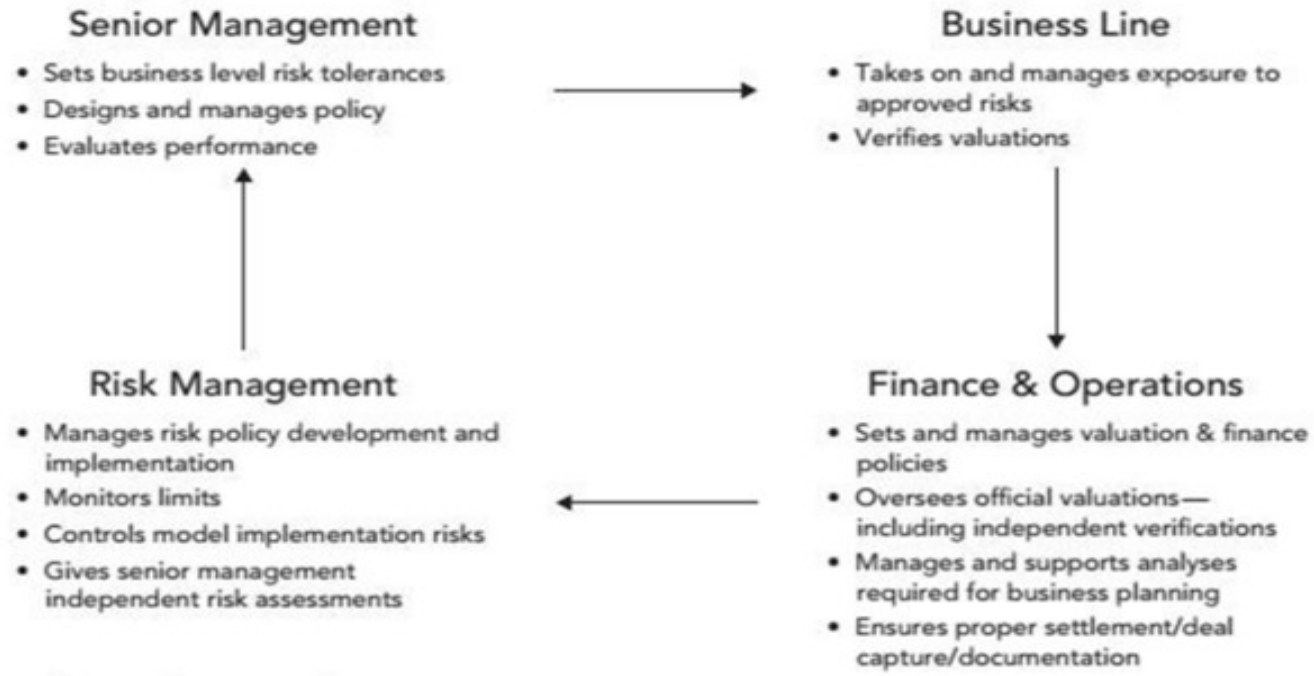
B.Monitor limits and control model implementation risks.
C.Verify timely, accurate deal capture and affirm official profit and loss (P&L) statements.
D.Ensure accuracy and completeness of reported earnings, and reviewing independent valuation methodologies and processes.
参考答案：B
【莽学解析】解析见下图中总结



Interdependence in risk management.

The diagram below summarizes the key responsibilities.

47.Assume the following information for stocks A and B.Expected return on Stock A = 18%Expected return on Stock B = 23%Correlation between returns of Stock A and Stock B = 0.10Standard deviation of returns on Stock A = 40%Standard deviation of returns on Stock B = 50%The expected return and standard deviation of an equally weighted portfolio of stocks A and B are closest to:
A.Expected return (%)20.5,Standard deviation (%)33.54
B.Expected return (%)20.5,Standard deviation (%)11.22
C.Expected return (%)33.5,Standard deviation (%)11.22
D.Expected return (%)33.5,Standard deviation (%)33.54
参考答案：A
【莽学解析】



Interdependence in risk management.

The diagram below summarizes the key responsibilities.

48.

			Growth	Bond	Size	ROE	ERP
Factor Forecasts			2.0%	2.5%	-1.5%	0.0%	6.0%
			Standardized Exposures (Factor Loadings or Factor Betas)				
Stock	Industry	Forecast	Growth	Bond	Size	ROE	Beta
Amex	FinServices	6.0%	0.20	-0.10	0.20	-0.30	1.20
AT&T	Telephones	6.0%	-0.20	0.80	1.50	-0.60	0.80
Chevron	Energy	6.0%	-0.60	-0.30	0.90	-0.70	0.70
Coca-Cola	Food	6.0%	0.00	0.30	1.40	1.50	1.00
Disney	Entertain	6.0%	0.10	-0.90	0.70	0.40	1.10
Dow	Chemical	8.0%	-0.60	-0.90	0.50	0.20	1.10

Please note: Two industry classifications: expected excess return is 8.0% for the chemical industry and 6.0% for all other industries. The factor forecasts are (top row): 2.0% for Growth, 2.5% for Bond, -1.5% for Size, and 0.0% for ROE. The CAPM excess market return is 6.0%.What is the APT forecast for Dow?

A. 3.80%

B. 4.60%

C. 6.60%

D.7.40%
参考答案：A
【莽学解析】

$$8\%\text{industry} + (-0.60 \times 2.0\%) + (-0.90 \times 2.5\%) + (0.5 \times -1.5\%) + (0.20 \times 0\%) = 3.80\%$$

49.Which of the following is TRUE about the bank's audit function?
A.Internal audit is necessary because it is virtually impossible to rate (i.e., assign ratings to) the risk management function.
B.The firm's operational risk management should report directly to the internal audit function.
C.Internal auditors are responsible for reviewing monitoring procedures, tracking the progress of risk management system upgrades, and affirming the efficacy of vetting processes.
D.The assistance of internal audit should not be required to the risk governance function: a properly designed risk governance function should be able to ascertain compliance alone.
参考答案：C
【莽学解析】In regard to A, GARP recommends rating risk management practices: A risk management function can be rated. This rating may be used internally or by third parties.In regard to B, Risk management must be independent, even from internal audit.In regard to D, Internal audit is an essential complement to risk management. 关于A，GARP协会建议对风险管理实践进行评级：可以对风险管理功能进行评级。 此等级可以在内部使用，也可以由第三方使用。 关于B，风险管理必须独立于内部审计。 关于D，内部审计是风险管理的重要补充。

50.Which of the following statements regarding the role of the firm's audit committee is most accurate?
A.The audit committee is meant to work dependently with management.
B.The audit committee may consist of some members of the management team.
C.The audit committee is only responsible for the accuracy of the financial statements.
D.At least one member of the audit committee must possess sufficient financial knowledge.
参考答案：B
【莽学解析】The audit committee consists primarily of non-management members but there may be some management members. (e.g., chief financial officer).审计委员会所有的成员都必须掌握相关的金融财务知识，A错误。审计委员会可以包含一些管理层的成员，但要保持相对的独立性，B正确，D错误。审计委员会负责审计各项报告是否准确，是否符合规章制度并且监管相关的财务报告、合规内控以及风险管理的系统，C选项太过片面因此错误。

51.Assume two portfolios, (A) and (B), are each well-diversified and the economy has only one factor. The expected return of portfolio (A) is 8.0% and its beta is 1.30. The expected return of portfolio (B) is 6.0% and its beta is 0.90. What is the implied risk-free rate?
A.1.50%
B.2.25%
C.3.00%
D.5.75%
参考答案：A
【莽学解析】解二元一次方程可得出答案：

- Given two equations and two unknowns:
- $8.0\% = R(f) + (1.30 \cdot RP)$
- $6.0\% = R(f) + (0.90 \cdot RP)$
- $R(f) = 1.50\% \quad RP = 5.0\%$

52.Suppose that there are two independent economic factors, F1 and F2. The risk-free rate is 1.0%, and all stocks have independent firm-specific components with a standard deviation of 25%. The following are well-diversified portfolios; e.g., Portfolio (A) has a beta sensitivity to factor the first factor, β(F1), of 1.20 and an expected return of 13.0%:

Portfolio	$\beta(\mathbf{F1})$	$\beta(\mathbf{F2})$	$E(\mathrm{R})$
A	1.20	−0.30	13.00%
B	0.60	−0.40	5.00%

Which is the correct return-beta relationship in this economy?
A.E[R(P)] = 1.0% - β(F1)×6.0% - β(F2)×4.0%
B.E[R(P)] = 1.0% - β(F1)×5.0% + β(F2)×2.0%
C.E[R(P)] = 1.0% + β(F1)×9.0% + β(F2)×3.0%
D.E[R(P)] = 1.0% + β(F1)×12.0% + β(F2)×8.0%
参考答案：D
【莽学解析】We need to solve for two equations with two unknowns:

$$0.13 = 0.01 + 1.20 \cdot RP(1) - 0.30 \cdot RP(2)$$
$$0.05 = 0.01 + 0.60 \cdot RP(1) - 0.40 \cdot RP(2)$$

Solving the equations, we will get: RP(1)=0.12 RP(2)=0.08So the answer is:

$$E[R(P)] = 1.0\% + \beta(F1) \cdot 12.0\% + \beta(F2) \cdot 8.0\%$$

53.Consider the following multi-factor (APT) model of security returns for a particular stock, along with actual-versus-expected rates of change in the three macro factors:

If we include the "surprises" in the macro factors, what is the expected rate of return for the stock?
A.5.30%
B.7.30%
C.8.40%
D.9.90%
参考答案：C
【莽学解析】

Riskfree rate	2.0%

	Factor		Rate of Change	
Factor	Beta	Risk Premium	Expected	Actual
Inflation	1.20	2.0%	3.0%	4.0%
Industrial Production	0.50	4.0%	4.0%	5.0%
Oil prices	0.30	3.0%	2.0%	0.0%

The expected return on this stock (if the market views the stock as fairly priced) is given by: $E(r) = 2.0\% + 1.20 \cdot 2.0\% + 0.50 \cdot 4.0\% + 0.30 \cdot 3.0\% = 7.30\%$.

The expected return due to surprises in the macroeconomic factors is given by:

$(4.0\% - 3.0\%) \cdot 1.20 + (5.0\% - 4.0\%) \cdot 0.50 + (0.0\% - 2.0\%) \cdot 0.30 = 1.20\% + 0.50\% - 0.60\% = +1.10\%$

Revised expected return $= 7.30\% + 1.10\% = 8.40\%$

54. Consider below the multifactor (APT) model of security returns for a particular stock. In addition to factor betas and risk premiums, two of the factors experience "surprises." Specifically, while interest rates change as expected, actual inflation is +2.0% (compared to expected +1.0%) and actual GDP growth is +1.5% (compared to expected +0.5%):

Riskfree rate	2.0%

	Factor		Rate of Change	
Factor	Beta	Risk Premium	Expected	Actual
Δ inflation (Δi)	0.80	2.0%	1.0%	2.0%
Δ interest rates (Δr)	(0.50)	1.0%	1.0%	1.0%
ΔGDP	1.30	3.0%	0.5%	1.5%

What is the expected rate of return on the security?

A. 6.8%

B. 7.2%

C. 9.10%
D. 11.5%
参考答案：C
【莽学解析】

$$E(r) = 2.0\% + 0.80 \cdot 2.0\% - 0.50 \cdot 1.0\% + 1.30 \cdot 3.0\% = 7.00\%$$

$$\text{Unexpected return} = 0.80 \cdot (2.0 - 1.0\%) - 0.50 \cdot (1.0\% - 1.0\%) + 1.30 \cdot (1.5\% - 0.5\%)$$

$$= 0.80\% + 1.30\% = 2.10\%$$

$$\text{Revised } E(r) = 7.00\% + 2.10\% = 9.10\%$$

55. A growing regional bank has added a risk committee to its board. One of the first recommendations of the risk committee is that the bank should develop a risk appetite statement. What best represents a primary function of a risk appetite statement?
A. To quantify the level of variability for each risk metric that a firm is willing to accept.
B. To state specific new business opportunities that a firm is willing to pursue.
C. To assign risk management responsibilities to specific internal staff members.
D. To state a broad level of acceptable risk to guide the allocation of the firm\u2019s resources.
参考答案：D
【莽学解析】A risk appetite statement states a broad level of risk across the organization the firm is willing to accept in order to pursue value creation. The statement is typically broadly articulated and can be communicated across the organization, and helps to allocate resources to specific objectives at the firm. 风险偏好声明指出了公司为追求价值创造而愿意接受的整个组织中的广泛风险。 该声明通常表达清晰，可以在整个组织中传达，并有助于将资源分配给公司的特定目标。

56.

			Growth	Bond	Size	ROE	ERP
	Factor Forecasts		2.0%	2.5%	-1.5%	0.0%	6.0%
			Standardized Exposures (Factor Loadings or Factor Betas)				
Stock	Industry	Forecast	Growth	Bond	Size	ROE	Beta
Amex	FinServices	6.0%	0.20	-0.10	0.20	-0.30	1.20
AT&T	Telephones	6.0%	-0.20	0.80	1.50	-0.60	0.80
Chevron	Energy	6.0%	-0.60	-0.30	0.90	-0.70	0.70
Coca-Cola	Food	6.0%	0.00	0.30	1.40	1.50	1.00
Disney	Entertain	6.0%	0.10	-0.90	0.70	0.40	1.10
Dow	Chemical	8.0%	-0.60	-0.90	0.50	0.20	1.10

Please note: Two industry classifications: expected excess return is 8.0% for the chemical industry and 6.0% for all other industries. The factor forecasts are (top row): 2.0% for Growth, 2.5% for Bond, -1.5% for Size, and 0.0% for ROE. The CAPM excess market return is 6.0%. What is the CAPM forecast for Dow?

A.3.80%
B.4.60%
C.6.60%
D.7.40%
参考答案：C
【莽学解析】本题解析如下： 1.1 beta×6.0% ERP = 6.60% excess return

57.Which of the following is least likely to be one of the inputs to a multifactor model?
A.The mean-variance efficient market portfolio
B.Factor betas
C.Deviation of factor values from their expected values
D.Firm-specific returns
参考答案：A
【莽学解析】The mean-variance efficient market portfolio is essential to the capital asset pricing model, but is not required in multifactor models.均值——方差有效的市场投资组合对于资本资产定价模型至关重要，但在多因素模型中则不是必需的。

58.An investor believes there are three important factors that determine the expected return for a common stock. The investor uses the following factor betas and factor risk premiums.

Factor	Factor Beta	Factor Risk Premium
1	0.7	1.5%
2	1.2	4.0%
3	-0.1	5.0%

If the risk-free rate is 3%, what is the expected return for this stock using the arbitrage pricing theory (APT) model?
A.5.35%
B.8.35%
C.9.50%.
D.10.37%.
参考答案：B
【莽学解析】E(R) = 0.03 + 0.7(0.015) + 1.2(0.04) - 0.1(0.05)E(R) = 0.03 + 0.0105 + 0.048 - 0.005E(R) = 0.0835E(R) = 0.03 0.7(0.015) 1.2(0.04) - 0.1(0.05) E(R) = 0.03 0.0105 0.048 - 0.005 E(R) = 0.0835

59.On a graph of risk, measured by standard deviation, and expected return, the efficient frontier represents:
A.all portfolios plotted in the northeast quadrant that maximize return.
B.the set of portfolios that dominate all others as to risk and return.
C.all portfolios plotted to the left of the graph that maximize either risk or return.

D.the group of portfolios that have extreme values and therefore are \u201cefficient\u201d in their allocation.
参考答案：B
【莽学解析】The efficient set is the set of portfolios that dominate all other portfolios as to risk and return. That is, they have highest expected return at each level of risk.有效集是在风险和回报方面支配所有其他投资组合的投资组合集。 也就是说，他们在每种风险水平下都具有最高的预期收益。

60.While the risk-free rate was 4.0%, a portfolio's realized a return of 14.0% exactly matched the return of its benchmark, the market index, which also returned 14.0%. The portfolio's covariance (of returns) with the market index was 0.01440 and the market's volatility was 20.0%. What was the Jensen's alpha of the portfolio?
A.-1.6%
B.Zero
C.3.2%
D.6.4%
参考答案：D
【莽学解析】Beta (P, M) = Cov(P,M)/Variance(M) = 0.01440/0.20^2 = 0.36. Jensen's alpha = 14% - 4% - 0.36*(14%-4%) = 6.4%.

61.A portfolio to the right of the market portfolio on the capital market line (CML) is created by:
A.holding more than 100% of the risky asset.
B.fully diversifying.
C.buying the risk-free asset.
D.holding both the risk-free asset and the market portfolio.
参考答案：A
【莽学解析】Portfolios that lie to the right of the market portfolio on the capital market line are created by borrowing funds to own more than 100% of the market portfolio (M). Both the statement, "holding both the risk-free asset and the market portfolio" and "buying the risk-free asset" refer to portfolios that lie to the left of the market portfolio. Portfolios that lie to the left of point M are created by lending funds (or buying the risk free-asset). These investors own less than 100% of both the market portfolio and more than 100% of the risk-free asset. The portfolio at point Rf (intersection of the CML and the y-axis) is created by holding 100% of the risk-free asset. The statement, "fully diversifying" is incorrect because the market portfolio is fully diversified.通过借入资金拥有超过100％的市场投资组合（M）来创建位于资本市场行上市场投资组合右侧的投资组合。 “同时持有无风险资产和市场投资组合”和“购买无风险资产”这两个陈述均指位于市场投资组合左侧的投资组合。 位于M点左侧的投资组合是通过借贷资金（或购买无风险资产）创建的。 这些投资者既拥有不到100％的市场资产，又拥有超过100％的无风险资产。 Rf点（CML与y轴的交点）处的投资组合是通过持有100％的无风险资产而创建的。 因为市场组合是完全多元化的，所以“完全多元化”的说法是不正确的。

62.Suppose the S&P 500 has an expected annual return of 7.6% and volatility of 10.8%. Suppose the Atlantis Fund has an expected annual return of 8.3% and volatility of 8.8% and is benchmarked against the S&P 500. If the risk free rate is 2.0% per year, what is the beta of the Atlantis Fund according to the Capital Asset Pricing Model?

A. 0.81
B. 0.89
C. 1.13
D. 1.23
参考答案：C
【莽学解析】Since the correlation or covariance between the Atlantis Fund and the S&P 500 is not known, CAPM must be used to back out the beta.

$$\overline{R}_i = R_f + \beta_i \times (\overline{R}_M - R_f)$$
$$8.3\% = 2.0\% + \beta_i \times (7.6\% - 2.0\%)$$
$$\beta_i = \frac{8.3\% - 2.0\%}{7.6\% - 2.0\%} = 1.13$$

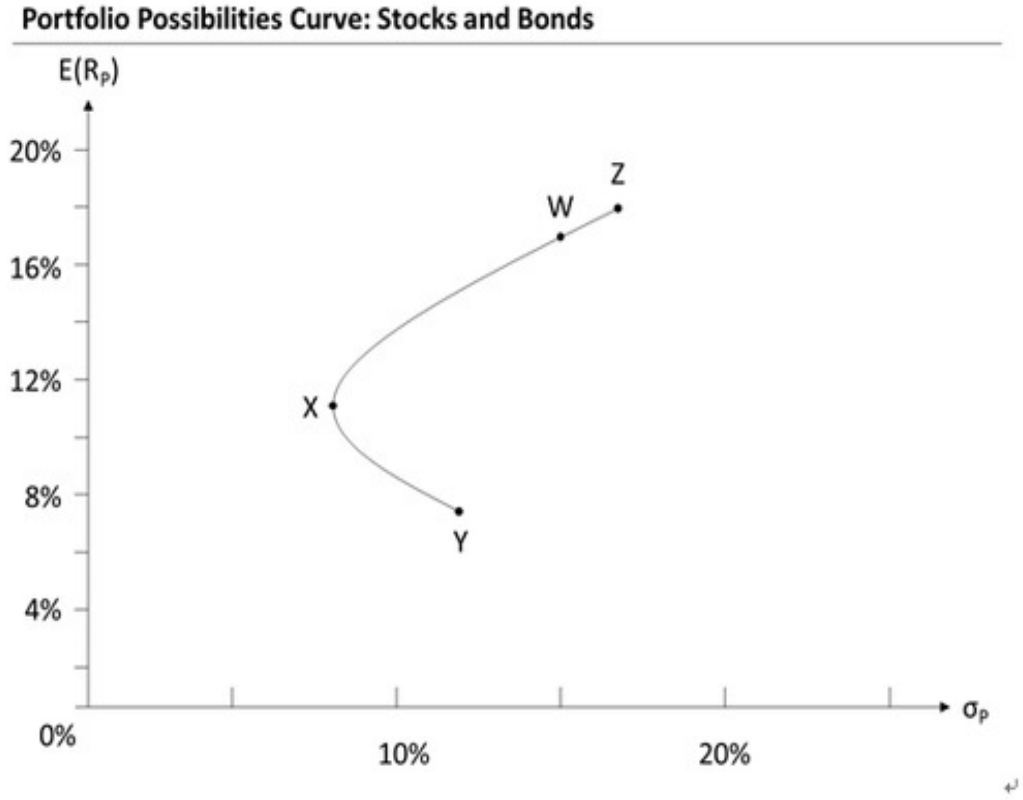
63. A portfolio contains only two assets. The first asset (a) has volatility of 9.0% and the second asset (b) has volatility of 16.0%. If the assets are uncorrelated, what is nearest to the weight in the first asset (a) in the minimum variance portfolio?
A. 43.75%
B. 56.25%
C. 75.96%
D. 100.0%
参考答案：C
【莽学解析】

As the assets are uncorrelated, $\sigma_P^2 = W_A^2\sigma_A^2 + W_B^2\sigma_B^2 = 0.09^2W_A^2 + 0.16^2(1-W_A)^2 = 0.0337W_A^2 - 0.0512W_A + 0.0256$

When $W_A = -\frac{-0.0512}{2\times0.0337} = 0.759644$, σ_P^2 will be the minimum.

64.
The graph shows the portfolio possibilities curve for stocks and bonds. The point on the graph that most likely represents a 90% allocation in stocks and a 10% allocation in bonds is portfolio:
A. W
B. X
C. Y

Assume the expected return on stocks is 18% (represented by Z in the figure), and the expected return on bonds is 8% (represented by point Y on the graph).



D.Z

参考答案：A

【莽学解析】Since the return to W is the nearest to Z (stocks), it is logical to assume that point W represents an allocation of 90% stocks and 10% bonds. The return for W is lower than Z, but it also represents a reduction in risk.由于W的收益最接近Z（股票），因此逻辑上假设点W代表90％的股票和10％的债券的分配。 W的收益低于Z，但它也代表了风险的降低。

65.XYZ Inc. has a beta of 1.15. If the expected return on the market is 12 percent, and the risk-free rate is 6 percent, what is the expected return for XYZ?

A.10.15%

B.12.90%

C.11.69%

D.14.00%

参考答案：B

【莽学解析】

66.The ST Fund is a mutual fund that is benchmarked to the S&P 500 index. It contains equally weighted holdings of 10 stocks from the index, with an average annual portfolio return of 11%

$$E(R_p) = R_f + \beta[E(R_m) - R_f]$$

$$E(R_p) = 6\% + 1.15 \times (12\% - 6\%)$$

$$E(R_p) = 12.9\%$$

and a volatility of returns of 16%. Over the same time period, the average annual return on the S&P 500 has been 12%, with a volatility of returns of 9%. The annual risk-free rate is 3%. ST Fund's portfolio manager is planning to diversify the fund by increasing its holdings to 100 stocks in the S&P 500, all equally weighted. Because of this change, ST Fund's Sharpe ratio will most likely:

A.Decrease toward 0

B.Decrease toward 1

C.Increase toward 1

D.Increase above 1

参考答案：C

【莽学解析】The sharp ratio of ST Fund is:

$$\frac{11\% - 3\%}{16\%} = 0.5$$

. The sharp ratio of S&P 500 is:

$$\frac{12\% - 3\%}{9\%} = 1$$

. When ST Fund's portfolio manager is planning to diversify the fund by increasing its holdings to 100 stocks in the S&P 500, the ST Fund's Sharpe ratio will most likely increase to the sharp ratio of S&P 500.

67.Which of the following statements about a stock's beta is TRUE? A beta greater than one is:

A.risky, while a beta less than one is risk-free.

B.is riskier than the market, while a beta less than one is less risky than the market.

C.overvalued, while a beta less than one is undervalued.

D.undervalued, while a beta less than one is overvalued.

参考答案：B

【莽学解析】Beta is a measure of the volatility of a stock. The overall market's beta is one. A stock with higher systematic risk than the market will have a beta greater than one, while a stock that has a lower systematic risk will have a beta less than one.Beta是衡量股票波动性的指标。 整体市场的beta是1。 系统风险比市场高的股票的贝塔值大于1，而系统风险比市场低的股票的贝塔值小于1。

68.Assume the following information for stocks A and B.*Standard deviation of returns on Stock A = 40%*Standard deviation of returns on Stock B = 50%*Expected return on Stock A = 18%*Expected return on Stock B = 23%*Correlation between returns of Stock A and Stock B = 0.10The expected return and standard deviation of an equally weighted portfolio of stocks A and B are closest to:

A.Expected return 20.5%; Standard deviation 33.54%

B.Expected return 20.5%; Standard deviation 11.22%

C.Expected return 33.5%; Standard deviation 11.22%

D.Expected return 33.5%; Standard deviation 33.54%

参考答案：A

【莽学解析】计算过程如下：

$$E(R_P) = \omega_A E(R_A) + \omega_B E(R_B) = 0.50 \times 0.18 + 0.50 \times 0.23 = 20.5\%$$

$$\sigma_P = \sqrt{(\omega_A^2\sigma_A^2 + \omega_B^2\omega_B^2 + 2\omega_A\omega_B\rho_{AB}\sigma_A\sigma_B)}$$

$$= \sqrt{(0.5^2 \times 0.4^2 + 0.5^2 \times 0.5^2 + 2 \times 0.5 \times 0.5 \times 0.1 \times 0.4 \times 0.5)}$$

$$= 33.54\%$$

69.The market portfolio in Capital Market Theory is determined by:

A.a line tangent to the efficient frontier, drawn from any point on the expected return axis.

B.a straight line drawn to any efficient portfolio.

C.a line tangent to the efficient frontier, drawn from the risk-free rate of return.

D.the intersection of the efficient frontier and the investor's highest utility curve.

参考答案：C

【莽学解析】The Capital Market Line is a straight line drawn from the risk-free rate of return (on the Y axis) through the market portfolio. The market portfolio is determined as where that straight line is exactly tangent to the efficient frontier.资本市场线是从无风险收益率（Y轴）到市场投资组合的直线。 市场投资组合被确定为该直线与有效边界正好相切的位置。

70.The intercept and slope of the capital market line are:

A.RM and [E(RP) - RF] / σP, respectively.

B.RF and [E(RP) - RF] / σM, respectively.

C.RM and [E(RM) - RP] / σM, respectively.

D.RF and [E(RM) - RF] / σM, respectively.

参考答案：D

【莽学解析】The quotation of CML is

$$E(R_P) = R_F + \left[\frac{E(R_M) - R_F}{\sigma_M}\right]\sigma_P$$

,thus, the intercept is R_F and the slope is

$$\frac{E(R_M) - R_F}{\sigma_M}$$

71.An analyst at CAPM Research Inc. is projecting a return of 21% on portfolio A. The market risk premium is 11%, the volatility of the market portfolio is 14%, and the risk-free rate is 4.5%. Portfolio A has a beta of 1.5. According to the capital asset pricing model, which of the following statements is true?

A.The expected return of portfolio A is greater than the expected return of the market portfolio.

B.The expected return of portfolio A is less than the expected return of the market portfolio.

C.The return of Portfolio A has lower volatility than the market portfolio.

D.The expected return of portfolio A is equal to the expected return of the market portfolio.

参考答案：A

【莽学解析】According to the CAPM, the required return of Portfolio A is:

$$R_f + \beta\left[E(R_M) - R_f\right] = 4.5\% + 1.5\% \times 11\% = 21\%$$

While the expected return on the market is:market risk = premium R_f=11%＋4.5%=15.5%Therefore, the expected return of portfolio A is greater than the expected return of the market portfolio.

72.Given the following data, what is the correlation coefficient between the two stocks and the Beta of stock A?Standard deviation of returns of Stock A is 10.04%Standard deviation of returns of Stock B is 2.05%Standard deviation of the market is 3.01%Covariance between the two stocks is 0.00109Covariance between the market and stock A is 0.002

A.Correlation Coefficient：0.5296 Beta (stock A):0.06

B.Correlation Coefficient：0.6556 Beta (stock A):2.21

C.Correlation Coefficient：0.5296 Beta (stock A):2.21

D.Correlation Coefficient：0.6556　Beta (stock A):0.06

参考答案：C

【莽学解析】

$$\rho = \frac{Cov(A,B)}{\sigma_A \sigma_B} = \frac{0.00109}{10.04\% \times 2.05\%} = 0.5296$$

$$\beta_A = \frac{Cov(A,M)}{\sigma_M^2} = \frac{0.002}{3.01\%^2} = 2.21$$

73.Assume the expected return on stocks is 18% (represented by Z in the figure), and the expected return on bonds is 8% (represented by point Y on the graph). The graph shows the portfolio possibilities curve for stocks and bonds. The point on the graph that most likely represents a 90% allocation in stocks and a 10% allocation in bonds is portfolio:

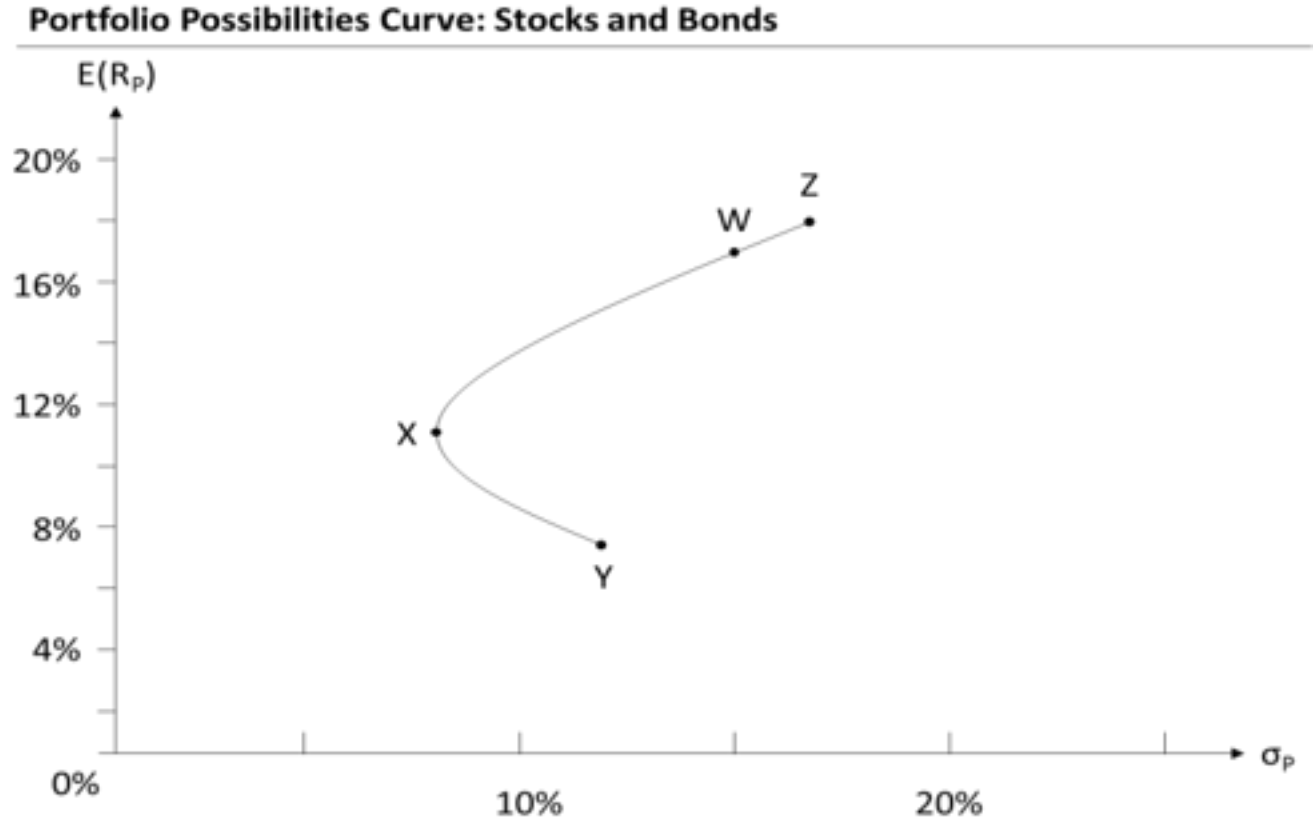
A.W

B.X

C.Y

D.Z

参考答案：A



【莽学解析】Since the return to W is the nearest to Z (stocks), it is logical to assume that point W represents an allocation of 90% stocks and 10% bonds. The return for W is lower than Z, but it also represents a reduction in risk.由于W的收益最接近Z（股票），因此逻辑上假设点W代表90％的股票和10％的债券的分配。 W的收益率低于Z，但它也表示风险降低。

74.Roger is an analyst employing the capital asset pricing model (CAPM) to estimate the return of a portfolio. However, his colleague Sally makes four observations. Which of the following observations, if true, does NOT violate the assumption of CAPM?

A.Sally proves that the portfolio securities' returns are heavy-tailed (leptokurtic).

B.Sally observes that other investors have different views about the expected returns and variances of the portfolio securities.

C.If Roger makes a purchase of a security in the portfolio, his purchase will NOT increase (or impact) the price of the security.

D.Sally points out that Roger incurs transaction costs, cannot short sell, and cannot borrow at the risk-rate.

参考答案：C

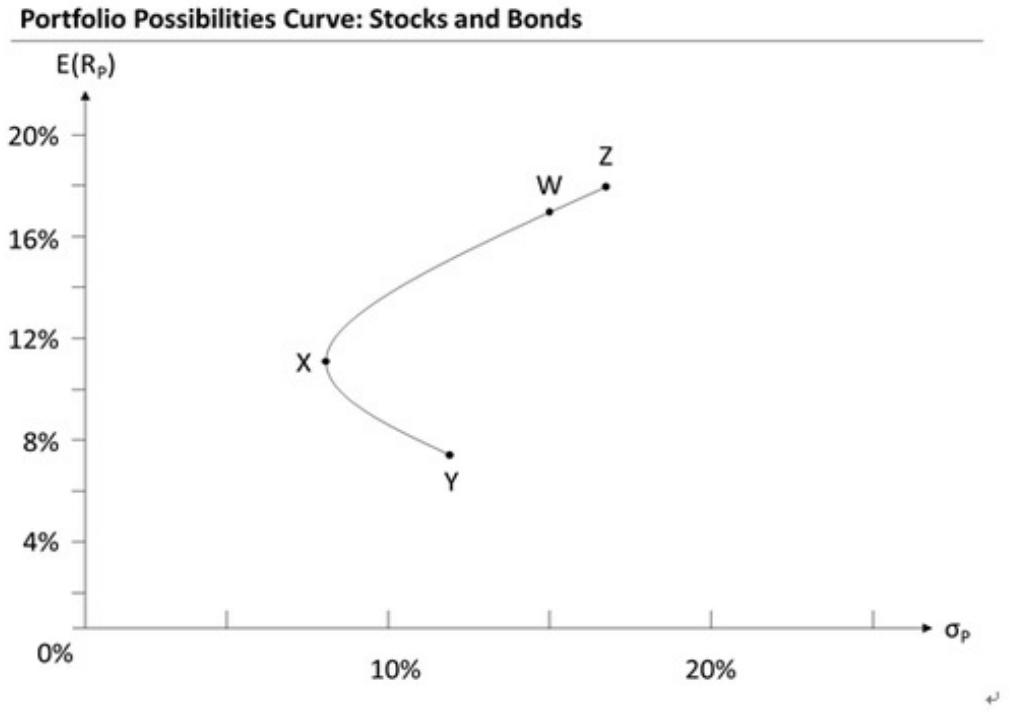
【莽学解析】In regard to A, standard CAPM utilizes the mean-variance framework such that only the first two moments are considered and returns are assumed multivariate normal. An individual cannot affect the price of a stock by his buying or selling action. This is analogous to the assumption of perfect competition. While no single investor can affect prices by an individual action, investors in total determine prices by their actions.In regard to B, homogenous expectations is arguably the key assumption that leads to equilibrium.In regard to D, transaction cost doesn't exist in the assumptions of CAPM. Also, short sell and borrow at risk-free rate should be allowed.关于A，标准CAPM利用均值方差框架，因此仅考虑前两个时刻，并假定收益为多元正态。 个人不能通过其买卖行为影响股票价格。 这类似于完全竞争的假设。 虽然没有任何一个投资者可以通过单个操作来影响价格，但总体而言，投资者可以通过其操作来确定价格。关于B，同质期望可

以说是导致均衡的关键假设。对于D，CAPM假设不存在交易成本。 此外，应允许以无风险利率卖空和借贷。

75.According to the CAPM, over a single time period, investors seek to maximize their:
A.wealth and are concerned about the tails of return distributions.
B.wealth and are not concerned about the tails of return distributions.
C.expected utility and are concerned about the tails of return distributions.
D.expected utility and are not concerned about the tails of return distributions.
参考答案：D
【莽学解析】CAPM assumes investors seek to maximize the expected utility of their wealth at the end of the period, and that when choosing their portfolios, investors only consider the first two moments of return distribution: the expected return and the variance. Hence, investors are not concerned with the tails of the return distribution.CAPM假定投资者在期末寻求最大程度地发挥其财富的预期效用，并且在选择投资组合时，投资者仅考虑收益分配的前两个时刻：预期收益和方差。 因此，投资者不必担心收益分配的尾部分布。

76.

Assume the expected return on stocks is 18% (represented by Z in the figure), and the expected return on bonds is 8% (represented by point Y on the graph).



The efficient frontier consists of the portfolios between and including:
A.X and W
B.Y and Z

C.X and Z
D.Y and X
参考答案：C
【莽学解析】The efficient frontier consists of portfolios that have the maximum expected return for any given level of risk (standard deviation or variance). The efficient frontier starts at the global minimum-variance portfolio and continues above it. Any portfolio below the efficient frontier is dominated by a portfolio on the efficient frontier. This is because efficient portfolios have higher expected returns for the same level of risk.有效边界包括在任何给定风险水平（标准差或方差）下具有最大预期收益的投资组合。 有效边界始于全局最小方差组合，并在其之上延伸。低于有效边界的任何投资组合均以有效边界上的投资组合为主导。 这是因为在相同风险水平下，有效的投资组合具有更高的预期收益。

77.The market portfolio in the Capital Market Theory contains which types of investments?
A.All stocks in existence.
B.All stocks and bonds in existence.
C.All risky and risk-free assets in existence.
D.All risky assets in existence.
参考答案：D
【莽学解析】The market portfolio contains all risky assets in existence. It does not contain any risk-free assets.市场投资组合包含所有存在的风险资产。 它不包含任何无风险资产。

78.CAPM assumptions: Which of the following is NOT an underlying assumption of the CAPM model?
A.Investors only consider the first two moments of return distribution: the expected return and the variance
B.All investors have the same forecast return, variance and covariance expectations for all assets
C.All investors prefer to be fully invested in the market portfolio
D.Markets are perfect: there are no taxes and no transaction costs. All assets are traded and are infinitely divisible
参考答案：C
【莽学解析】The market portfolio is the MOST EFFICIENT mix of risky assets but the CAPM does not restrict all investors to prefer a beta of 1.0.市场投资组合是风险资产中最有效的组合，但CAPM并没有限制所有投资者选择beta为1.0。

79.Which of the following statements is true?
A.The nominal returns of U.S. Treasury bills are risk-free returns.
B.Predicted variance is always greater than historical variance.
C.When using historical data to determine expected return inputs into a mean-variance portfolio optimization model, the longest possible time frame is best.
D.Treasury bill returns tend to be positively auto-correlated and this implies that T-bills are effectively a decreasingly risky asset as the investment time horizon grows.
参考答案：B
【莽学解析】In regard to A, this is false due to inflation risk.In regard to C, this is false. Characteristics of security returns usually change over time. Thus, there is a trade- off between using a long time frame to improve the estimates and having potentially inaccurate estimates from the longer time period because the security characteristics have changed.

Because of this conflict, most analysts modify historical estimates to reflect their beliefs about how current conditions differ from past conditions.In regard to D, the opposite: positive autocorrelation increases volatility (above the square root of time)关于A，由于有通胀风险，这是错误的。关于C，这是错误的。 安全收益的特征通常随时间而变化。 因此，由于安全特性已发生变化，因此在使用较长的时间范围以改善估计值与在较长的时间段内可能存在不准确的估计值之间要进行权衡。 由于这种冲突，大多数分析家修改了历史估计，以反映他们对当前状况与过去状况有何不同的观念。关于D，反例：正自相关会增加波动性（高于时间的平方根）。

80.Assume that you are only concerned with systematic risk. Which of the following would be the best measure to use to rank order funds with different betas based on their risk-return relationship with the market portfolio?
A.Treynor ratio
B.Sharpe ratio
C.Jensen’s alpha
D.Sortino ratio
参考答案：A
【莽学解析】Systematic risk of a portfolio is that risk which is inherent in the market and thus cannot be diversified away. In this situation you should seek a measure which ranks funds based on systematic risk only, which is reflected in the beta as defined below:

$$\beta_P = (\rho_{PM} * \sigma_P * \sigma_M) / \sigma^2_M$$

where is the correlation coefficient between the portfolio and the market, represents the standard deviation of the portfolio and represents the standard deviation of the market. In a well-diversified portfolio (where one is normally only concerned with systematic risk), it can be assumed that the correlation coefficient is close to 1, therefore beta can be approximated to an even simpler equation:

$$T_P = \left[E(R_p) - R_f\right] / \beta_p$$

In either case, beta explains the volatility of the portfolio compared to the volatility of the market, which captures only systematic risk. The Treynor ratio is the correct ratio to use in this case. The formula is: which describes the difference between the expected return of the portfolio, E(Rp) and the risk free rate Rf divided by the portfolio beta β. Therefore, it plots excess return over systematic risk.

81.An analyst is evaluating the performance of a portfolio of Mexican equities that is benchmarked to the IPC Index. The analyst collects the information about the portfolio and the benchmark index shown in the table below:* Expected return on the portfolio 6.6%*Volatility of returns on the portfolio 13.1%* Expected return on the IPC Index 4.0%* Volatility of returns on the IPC Index 8.7%* Risk-free rate of return 1.5%* Beta of portfolio relative to IPC Index 1.4What is the Sharpe ratio for this portfolio?
A.0.036
B.0.047
C.0.389
D.0.504
参考答案：C

【莽学解析】The Sharpe ratio for the portfolio is (6.6% - 1.5%)/13.1% = 0.389.组合的Sharpe ratio=(6.6% - 1.5%)/13.1% = 0.389.

82.A risk manager is analyzing the characteristics of a portfolio created by combining two stocks with standard deviations of returns of 14% and 19%, and a correlation coefficient of -1 between their returns. Assume no borrowing and no short selling is allowed, which of the following statements about potential portfolios created from only these two stocks is correct?
A.It is possible to create a portfolio that has a standard deviation of returns greater than 19%.
B.It is possible to create a portfolio that has a standard deviation of returns of 0%.
C.All possible portfolios will lie on the efficient frontier in standard deviation/return space.
D.All possible portfolios will lie on a single straight line in standard deviation/return space.
参考答案：B
【莽学解析】The correlation of -1 makes it possible to create a portfolio that has a standard deviation of returns of 0%.-1的相关性使得创建投资组合的回报标准偏差为0％成为可能。

83.Assume the risk-free rate is 4% and the expected (overall) market return is 12% with 20% volatility. Our portfolio (P) has volatility of 30% and a correlation with the market of 0.4. According to CAPM, what is the portfolio's expected return?
A.6.0%
B.8.8%
C.11.2%
D.12.0%
参考答案：B
【莽学解析】

$$\beta = \text{covariance}(p,M)/\text{variance}(M) = 20\% \times 30\% \times 0.4/20\%^2 = 0.6$$

$$E(R_p) = R_f + \beta \times [E(R_M) - R_f] = 4\% + 0.6 \times (12\% - 4\%) = 8.8\%$$

84.For the past four years, the returns on a portfolio were 6%，9% ，4%, and 12%. The corresponding returns of the benchmark were 7%, 10%, 4%, and 14%. The risk-free rate of return is 7%, and the mean squared deviation from the minimum return is 2.5. The portfolios Sortino ratio is closest to:
A.0.3000
B.0.4743
C.0.7000
D.1.1068
参考答案：B
【莽学解析】The benchmark returns are not important here. The average of the portfolio returns is(6 % 9% 4% 12%) / 4 = 31 %/ 4 = 7.75%. Sortino ratio= (7.75%-7%) /SQRT (2.5) If the minimum acceptable return isnot provided, it is reasonable to use the riskfree rate instead. 基准回报在

这里并不重要。 投资组合回报的平均值为（6% 9% 4% 12%）/ 4 = 31%/ 4 = 7.75%。Sortino比率 =（7.75%-7%）/ SQRT（2.5）如果没有提供可接受的最低回报，则可以合理地使用无风险利率。

85.A security’s systematic risk is proportional to:
A.the covariance of its return with the return on the market portfolio.
B.the standard deviation of its return.
C.the variance of its return.
D.its diversifiable risk.
参考答案：A
【莽学解析】The measure of systematic risk is beta, and beta is proportional to the covariance of a security’s return with the return on the market portfolio.系统风险的度量是beta，β与证券收益与市场投资组合收益的协方差成正比。

86.A portfolio is invested equally in two asset classes: bonds with expected return of 3.0% per annum and volatility of 18.0%; equities with expected return of 7.0% per annum and volatility of 26.0%. Their correlation is 0.40. If the portfolio re-allocates from equally weighting to 60% equities and 40% bonds, what is the net change to the portfolio’s expected return?
A.No change to portfolio’s expected return
B.Increase of 0.4%
C.Increase of 0.8%
D.Increase of 1.2%
参考答案：B
【莽学解析】Before: 50%×3% 50%×7% = 5.0% After: 40%×3% 60%×7% = 5.4%Expected return increases by 0.4%.Note that neither volatilities nor correlation impacts expected return. 之前: 50%×3%＋50%×7% = 5.0% 之后: 40%×3%＋60%×7% = 5.4% 预期收益率增长了0.4%。 注意波动率和相关系数都不会影响预期收益率。

87.To describe the shape of the portfolio possibilities curve, which one of the following is best?
A.The curve is strictly convex.
B.The curve is strictly concave.
C.The curve is convex above the minimum variance portfolio and concave below the minimum variance portfolio.
D.The curve is concave above the minimum variance portfolio and convex below the minimum variance portfolio.
参考答案：D
【莽学解析】The portfolio possibilities curve is concave above the minimum variance portfolio and convex below the minimum variance portfolio.投资组合可能性曲线在最小方差投资组合上方是凹面，在最小方差投资组合下方是凸面。

88.Portfolios that represent combinations of the risk-free asset and the market portfolio are plotted on the:
A.utility curve
B.capital asset pricing line
C.capital market line
D.characteristic line

参考答案：C

【莽学解析】The introduction of a risk-free asset changes the Markowitz efficient frontier into a straight line. This straight efficient frontier line is called the capital market line (CML). Investors at point Rf have 100 percent of their funds invested in the risk-free asset. Investors at point M have 100 percent of their funds invested in market portfolio M. Between Rf and M, investors hold both the risk-free asset and portfolio M. To the right of M, investors hold more than 100 percent of portfolio M. All investors have to do to get the risk and return combination that suits them is to simply vary the proportion of their investment in the risky portfolio M and the risk-free asset. The term "characteristic line" refers to Beta, used to form the security market line (SML). Utility curves reflect individual preferences.无风险资产的引入将Markowitz的高效前沿变成了一条直线。 这条直线有效的边界线称为资本市场线（CML）。 Rf点的投资者将其资金的100％投资于无风险资产。 位于M点的投资者将其资金的100％投资于市场投资组合M。在Rf和M之间，投资者同时持有无风险资产和投资组合M。在M的右侧，投资者持有投资组合M的100％以上。 投资者要做的就是获得适合自己的风险和收益组合，只是改变他们在风险投资组合M和无风险资产中的投资比例即可。 术语“特征线”是指Beta，用于形成证券市场线（SML）。 效用曲线反映了个人偏好。

89.You are analyzing a portfolio that has a Jensen’s alpha of 4.75% and an actual return of 14.2%. The risk-free rate is 4.25% and the equity risk premium is 6%. Based on the information provided, the beta of the portfolio is closest to:

A.0.77

B.0.87

C.0.97

D.1.07

参考答案：B

【莽学解析】1. Jensen’s alpha = actual return - expected return using CAPM2. CAPM E(R) = risk-free rate beta × (return on the market - risk-free rateUse Jensen’s alpha of 4.75% and the actual return of 14.2%. The expected return fromCAPM must be 14.2% - 4.75% = 9.45%.Use this value in the CAPM to find the beta of the portfolio.expected return = risk-free rate beta × equity risk premium9.45% = 4.25% β × 6%, therefore β = approximately 0.87.1. Jensen的alpha=实际收益-使用CAPM的预期收益2. CAPM E（R）=无风险利率 beta×（市场收益-无风险利率）使用Jensen的alpha为4.75％，实际收益为14.2％ 。CAPM的预期收益必须为14.2％-4.75％= 9.45％。在CAPM中使用此值来找到投资组合的Beta。预期收益=无风险利率 beta×股票风险溢价9.45％= 4.25％ β×6％，因此β=大约0.87。

90.Which of the following statements about the security market line (SML) is least accurate?

A.The market portfolio consists of all risky assets.

B.Securities that plot above the SML are undervalued.

C.The risk-free rate defines where the SML intersects the vertical axis.

D.Securities that plot on the SML have no intrinsic value to the investor.

参考答案：D

【莽学解析】Securities that fall on the SML are properly priced. They have value to an investor in that they still earn a return.SML上的证券已正确定价。 他们对投资者有价值，因为他们仍然可以获得回报。

91.The market portfolio (M) contains the optimal allocation of only risky assets and no risky assets. Let the S_1be the Sharpe ratio of this market portfolio. There exists a risk-free asset.

Initially, an investor is fully (100%) invested in M with a portfolio Sharpe ratio of S_1. Subsequently, the investor borrows 30% at the risk-free rate, such that she is 130% invested in the market portfolio (M) where this leverage portfolio has a Sharpe ratio of S_2. After the leverage (i.e., borrowing at the risk-free rate to invest + 30% in M, is the investor still on the efficient frontier and how do the Sharpe ratios?

A.No (no longer efficient), and S2 < S1.

B.No, but S2 = S1.

C.Yes(still efficient), but S2 < S1.

D.Yes, and S2 = S1.

参考答案：D

【莽学解析】The ability to borrowing or lend morphs the concave/convex efficient frontier into the linear CML; i.e., the leveraged portfolio is efficient with higher risk and higher return.All portfolios on the CML have the same Sharpe ratio: the slope of the CML.借入或借出的能力使凹/凸有效边界变形成线性CML。 即，杠杆投资组合是高效的，具有更高的风险和更高的回报。CML上的所有投资组合都具有相同的Sharpe比率：CML的斜率。

92.Which of the following best describes the shape of the portfolio possibilities curve?

A.The curve is strictly convex.

B.The curve is strictly concave.

C.The curve is concave above the minimum variance portfolio and convex below the minimum variance portfolio.

D.The curve is convex above the minimum variance portfolio and concave below the minimum variance portfolio.

参考答案：C

【莽学解析】The portfolio possibilities curve is concave above the minimum variance portfolio and convex below the minimum variance portfolio.投资组合可能性曲线在最小方差投资组合上方是凹的，在最小方差投资组合下方是凸的。

93.Assume the slope of the security market line (SML) is 0.060 while the risk-free rate is 2.0%. What is the Treynor measure of a security with an alpha of 2.40% and beta of 0.30?

A.0.140

B.0.280

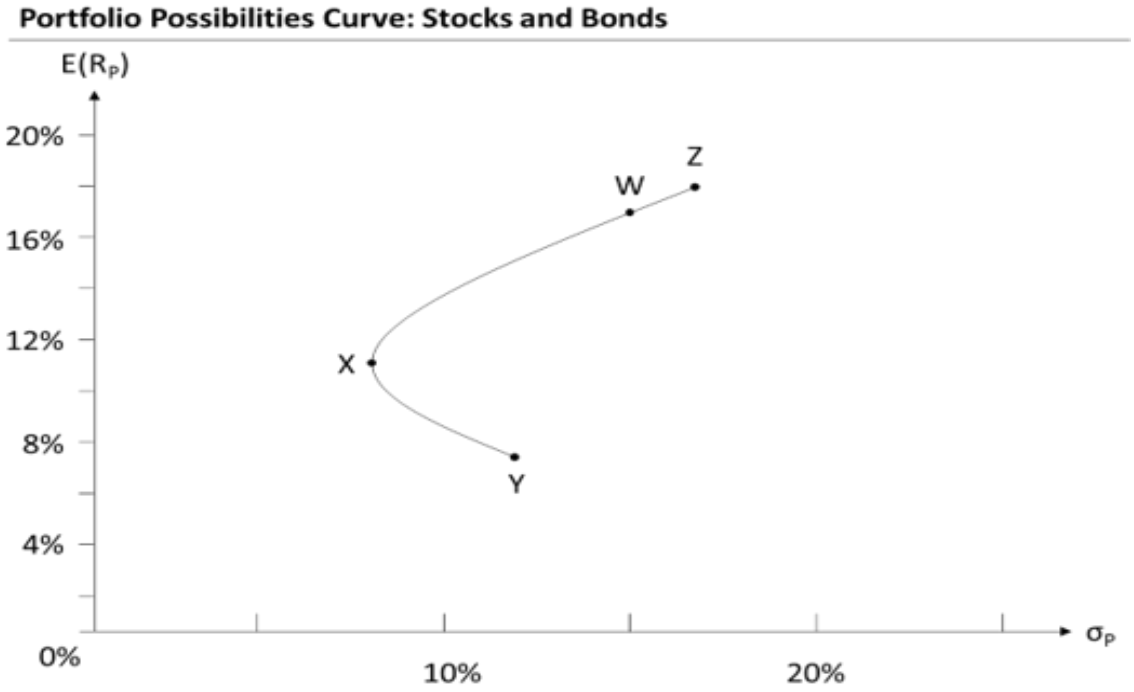
C.0.560

D.1.120

参考答案：A

【莽学解析】The slope of the SML is the market's excess return such that the security's excess return is 0.060×0.30 + 2.40%=4.20%The security's Treynor measure is therefore 4.20%/0.30 = 0.140There is one thing we need to pay attention to. Here we cannot use SML formula to calculate the expected return of the security, because the Treynor ratio requires the actual return of the security.SML的斜率是市场的超额收益，因此证券的超额收益为0.060×0.30 2.40%= 4.20%因此，证券的Treynor比率为4.20%/ 0.30 = 0.140我们需要注意一件事。 在这里，我们不能使用SML公式来计算证券的预期收益，因为Treynor比率需要证券的实际收益。

94.Assume the expected return on stocks is 18% (represented by Z in the figure), and the expected return on bonds is 8% (represented by point Y on the graph). The efficient frontier consists of the portfolios between and including:



A.X and W
B.Y and Z
C.X and Z
D.Y and X
参考答案：C
【莽学解析】The efficient frontier consists of portfolios that have the maximum expected return for any given level of risk (standard deviation or variance). The efficient frontier starts at the global minimum-variance portfolio and continues above it. Any portfolio below the efficient frontier is dominated by a portfolio on the efficient frontier. This is because efficient portfolios have higher expected returns for the same level of risk.有效边界包括在任何给定风险水平（标准差或方差）下具有最大预期收益的投资组合。 有效边界始于全局最小方差组合，并在其之上延伸。低于有效边界的任何投资组合均以有效边界上的投资组合为主导。 这是因为在相同风险水平下，有效的投资组合具有更高的预期收益。

95.An investment advisor is analyzing the range of potential expected returns of a new fund designed to replicate the directional moves of the BSE Sensex Index but with twice the volatility of the index. The Sensex has an expected annual return of 12.3% and volatility of 19.0%, and the risk free rate is 2.5% per year. Assuming the correlation between the fund’s returns and that of the index is 1, what is the expected return of the fund using the capital asset pricing model?
A.18.5%
B.19.0%
C.22.1%

D.24.6%
参考答案：C
【莽学解析】If the CAPM holds, then , which is maximized at the greatest possible beta value which implies a correlation of 1 between the fund’s return and the index return. Since the volatility of the fund is twice that of the index, a correlation of 1 implies a maximum beta βi of 2. Therefore: Ri (max) = 2.5% 2 * (12.3% - 2.5%) = 22.1%.如果CAPM成立，则，它将在最大可能的beta值处最大化，这意味着基金的回报率与指数回报率之间的相关性为1。 由于该基金的波动性是该指数的两倍，所以相关性为1意味着最大betaβi为2。因此：Ri（max）= 2.5% 2 *（12.3%-2.5%）= 22.1%。

96.Which of the following inputs is least likely required for the Markowitz efficient frontier?
A.The expected return of all securities.
B.The covariation between all securities.
C.The level of risk aversion in the market.
D.The variance of all securities.
参考答案：C
【莽学解析】The level of risk aversion in the market is not a required input. The model requires that investors know the expected return and variance of each security as well as the covariance between all securities.市场上的风险规避程度不是必需的数据。 该模型要求投资者了解每种证券的预期收益和方差以及所有证券之间的协方差。

97.An investment manager is looking at ten possible stocks to include in a client’s portfolio. In order to achieve the maximum efficiency of the portfolio, the manager must:
A.include all ten stocks in the portfolio in equal amounts.
B.include only the stocks that have the lowest volatility at a given expected rate of return.
C.find the combination of stocks that produces a portfolio with the maximum expected rate of return at a given level of risk.
D.exclude any of the stocks that are negatively correlated with each other.
参考答案：C
【莽学解析】The most efficient portfolio will be the one that lies on the efficient frontier. It will offer the highest expected return at a given level of risk compared to all other possible portfolios.最有效的投资组合将是有效前沿上的投资组合。 与所有其他可能的投资组合相比，它将在给定的风险水平下提供最高的预期回报。

98.In regard to the combination of two assets in the mean-variance framework, each of the following is true EXCEPT:
A.The lower (i.e., closer to -1.0) the correlation coefficient between assets, all other attributes held constant, the higher the payoff from diversification.
B.The combinations of two assets can never have more risk than that found on a straight line connecting the two assets in expected return standard deviation space.
C.The combinations of two assets, assuming no short selling, can never have less risk than the least risky asset in the portfolio.
D.When two assets are combined in a portfolio, there always exists a simple expression for finding the minimum variance portfolio.
参考答案：C
【莽学解析】The combinations of two assets, assuming no short selling, can have less riskthan

the least risky asset in the portfolio.For example, if sigma(a) = 10% and sigma(b) = 20%, then any correlation less than 0.5 allows for portfolios with volatility less than 10%, without short selling; e.g., at rho = 0.1, the minimum variance portfolio occurs at 82.6% invested in asset(a) for a portfolio volatility of 9.28%.假设没有卖空，则两种资产的组合所具有的风险要小于投资组合中风险最小的资产。例如，如果sigma（a）= 10％和sigma（b）= 20％，则任何小于0.5的相关性都允许投资组合的波动率小于10％，而不需要卖空； 例如，在rho = 0.1时，最小方差投资组合出现在投资于资产（a）的82.6％时，投资组合波动率为9.28％。

99.Which one of the following portfolios does not lie on the efficient frontier?

Portfolio	Expected Return	Standard Deviation
A	7	5
B	9	12
C	11	10
D	15	15

A.A
B.B
C.C
D.D
参考答案：B
【莽学解析】Portfolio B has a lower expected return than Portfolio C with a higher standard deviation.投资组合B的预期收益低于投资组合C的预期收益，且标准差较高。

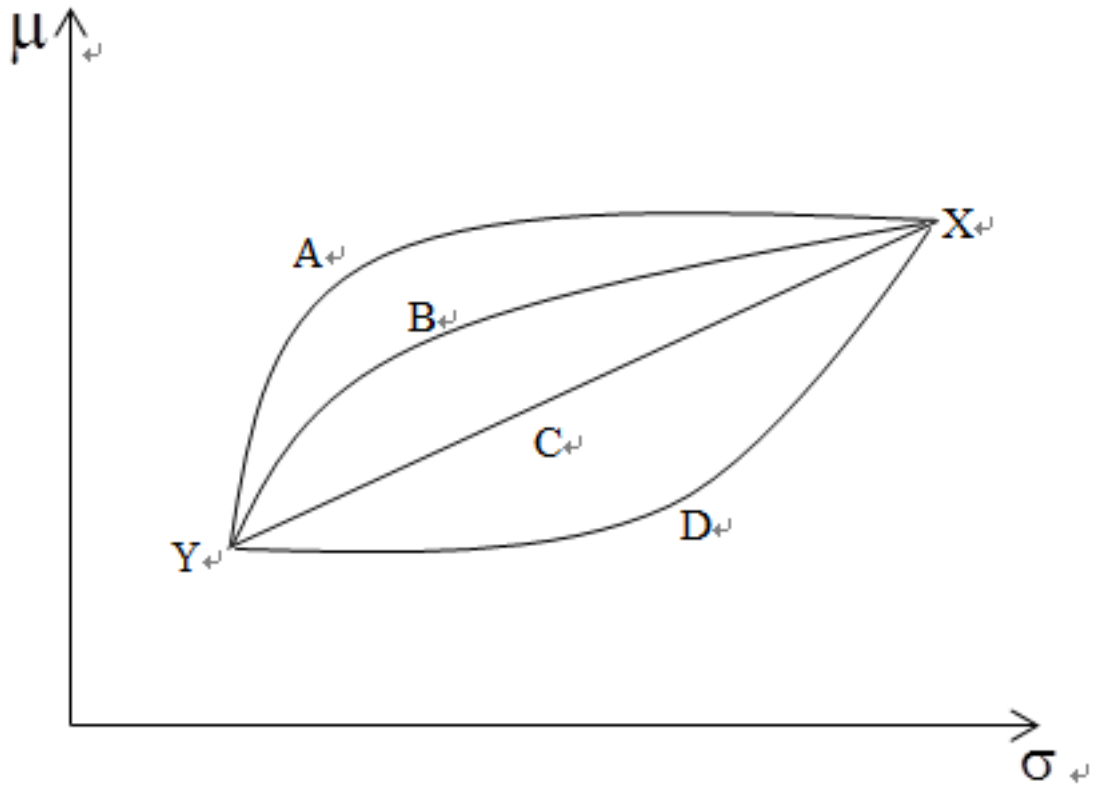
100.An analyst has developed the following data for two companies: PNS Manufacturing (PNS) and ABC Travel (ABC). PNS has an expected return of 15 percent and a standard deviation of 18 percent. ABC has an expected return of 11 percent and a standard deviation of 17 percent. PNS's correlation with the market is 75 percent, while ABC's correlation with the market is 85 percent. If the market standard deviation is 22%, which of the following are the betas for PNS and ABC?
A.Beta of PNS:0.66 Beta of ABC: 0.61
B.Beta of PNS:0.92 Beta of ABC: 1.10
C.Beta of PNS:0.61 Beta of ABC: 0.66
D.Beta of PNS:1.10 Beta of ABC: 0.92
参考答案：C
【莽学解析】

$$\beta = \rho \frac{\sigma_i}{\sigma_m}$$

$$\beta_{PNS} = 0.75 \times \frac{18\%}{22\%} = 0.61$$

$$\beta_{ABC} = 0.85 \times \frac{17\%}{22\%} = 0.66$$

101. There are two assets X and Y, which line is not likely the efficient frontier for X and Y?



A. A
B. B
C. C
D. D
参考答案：D
【莽学解析】The efficient frontier is concaveabove the minimum variance portfolio 有效边界在最小方差组合之上是凹的。

102. According to CAPM, what is the expected return of diversifiable (idiosyncratic) risk?
A. Zero
B. Beta
C. Beta × Excess Market Return
D. Riskless rate + (Beta × Excess Market Return)
参考答案：A
【莽学解析】The CAPM is a SINGLE-FACTOR model that says expected return is a function of SYSTEMIC RISK (beta); in the diversified portfolio, unsystematic risk is eliminated and receives no compensation. The unsystematic risk, which is also called the diversifiable risk,

is not rewarded by the market. In fact, it can be eliminated by constructing diversified portfolios. The correct measure of risk for an individual asset is therefore the beta, and its reward is called the risk premium. The asset betas can be aggregated: the beta of a portfolio is obtained as a linear combination of the betas of the assets that make up the portfolio. According to the CAPM, the diversifiable risk component of each security is zero at equilibrium.CAPM是一个单因素模型，该模型表示预期收益是系统性风险（β）的函数； 在多元化的投资组合中，非系统性风险得以消除，并且不会获得任何补偿。 非系统性风险，也称为分散风险，不会被市场回报。 实际上，可以通过构建多元化的投资组合来消除它。 因此，针对单个资产的正确风险度量是beta，其报酬被称为风险溢价。 资产贝塔值可以加总：资产组合的贝塔值是构成资产组合的资产贝塔值的线性组合。根据CAPM，每个证券的可分散风险成分在均衡时为零。

103.Which of the following portfolios falls below the Markowitz efficient frontier?

Portfolio	Expected Return	Expected Standard Deviation
A	12.1%	8.5%
B	14.2%	8.7%
C	15.1%	8.7%
D	16.2%	9.4%

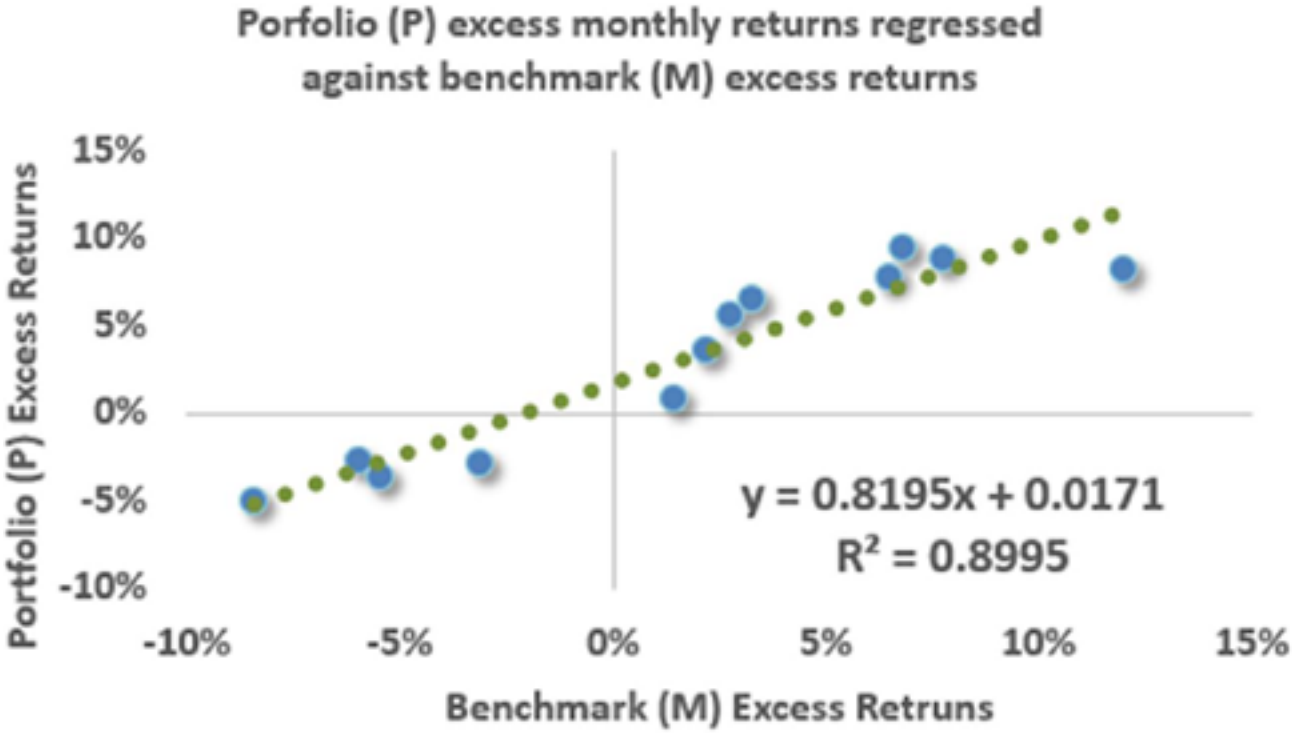
A.Portfolio A
B.Portfolio B
C.Portfolio C
D.Portfolio D
参考答案：B
【莽学解析】Portfolio B is inefficient (falls below the efficient frontier) because for the same risk level (8.7%), you could have portfolio C with a higher expected return (15.1% versus 14.2%).投资组合B是低效的（低于有效边界），因为对于相同的风险水平（8.7％），您可以让投资组合C具有更高的预期收益（15.1％对14.2％）。

104.For an investor to move further up the Capital Market Line than the market portfolio, the investor must:
A.reduce the portfolio's risk below that of the market.
B.continue to invest only in common stocks.
C.borrow and invest in the market portfolio.
D.diversify the portfolio even more.
参考答案：C
【莽学解析】Portfolios that lie to the right of the market portfolio on the capital market line ("up" the capital market line) are created by borrowing funds to own more than 100% of the market portfolio (M). The statement, "diversify the portfolio even more" is incorrect because the market portfolio is fully diversified.通过借入资金以拥有超过100％的市场投资组合（M）的方式，在资本市场组合（位于资本市场线上方）上位于市场投资组合右侧的投资组合。 因为市场投资组合已经完全多样化，所以“使投资组合更加多样化”的说法是错误的。

105.Given a set of risky assets, a Markowitz efficient frontier:

A. can be calculated from the assets\u2019 expected returns and the correlations of returns for each pair of assets.
B. includes all portfolios that reduce the risk level compared to holding a single asset.
C. cannot be generated unless one of the assets has a beta of zero.
D. consists of the portfolios that provide the lowest risk for every level of expected return.
参考答案：D
【莽学解析】The Markowitz efficient frontier is the set of possible portfolios that provide the highest return for each level of risk, or the lowest risk for each level of return. To generate an efficient frontier we need to know the expected returns and standard deviations for each asset, as well as the returns correlations for each pair of assets.Markowitz有效前沿是指可能为每个风险级别提供最高回报或为每个回报级别提供最低风险的投资组合。 为了产生有效的边界，我们需要知道每种资产的预期收益和标准差，以及每对资产的收益相关性。

106. Over the previous twelve (12) months, Analyst Robert regressed Portfolio (P) excess returns against the Benchmark (M) excess returns:



As shown above, the regression equation is given by P = 0.0171 + 0.8195*M. Further, the standard error of the regression (SER) is 0.0180; this SER can be considered as the tracking error because it is the square root of the variance of the regression's residual (prediction error). Which is nearest to the residual-based information ratio (IR)?
A. 0.655
B. 0.728
C. 0.833
D. 0.950
参考答案：D
【莽学解析】Information ratio (IR)=alpha/tracking error=0.0171/0.0180=0.950, as the regression intercept is alpha.Information ratio (IR)=alpha/tracking error=0.0171/0.0180=0.950, 回归方程的截距就是alpha。

107. Consider the expected returns and standard deviations for the following portfolios:

	Portfolio 1	Portfolio 2	Portfolio 3	Portfolio 4
Expected Return	10%	12%	11%	14%
Standard Deviation	14%	13%	12%	18%

Relative to the other portfolios, the portfolio that is not mean variance efficient is:

A. Portfolio 1

B. Portfolio 2

C. Portfolio 3

D. Portfolio 4

参考答案：A

【莽学解析】Portfolio 1 is not efficient because it has a lower expected return and higher risk than Portfolios 2, 3 and 4. 投资组合1的效率不高，因为它比投资组合2、3和4具有更低的预期收益和更高的风险。

108. Instead of residual-based information ratio (IR), it is also acceptable to compute information ratio (IR) based on active returns. The following table displays twelve (12) months of returns comparing a portfolio (P) to its benchmark (B); the final column shows the difference each month:

Month	Port-folio (P)	Bench-mark (B)	(P-B)
1	3.58%	2.20%	1.38%
2	-4.60%	-4.50%	-0.10%
3	5.28%	3.27%	2.01%
4	9.40%	6.80%	2.60%
5	8.78%	7.71%	1.07%
6	8.30%	9.00%	-0.70%
7	-4.60%	-5.40%	0.80%
8	5.37%	2.74%	2.63%
9	-2.70%	-2.86%	0.16%
10	7.76%	6.49%	1.27%
11	-2.80%	-3.13%	0.33%
12	0.78%	7.00%	-6.22%
Average	**2.88%**	**2.44%**	**0.44%**
STDEV.S()	**5.42%**	**5.19%**	**2.34%**

The final two rows show the average and sample standard deviation of the monthly return statistics. Which is nearest to the annualized ex-post (active-based) information ratio (IR)?

A. 0.404

B. 0.651

C.0.950
D.1.237
参考答案：B
【莽学解析】具体计算过程如下： Annualized ex post (active based)
IR=(0.0044×12)/(0.0234×√12)=0.65137

109.Suppose that the correlation of the return of a portfolio with the return of its benchmark is 0.8, the volatility of the return of the portfolio is 5%, and the volatility of the return of the benchmark is 4%. What is the beta of the portfolio?
A.1.00
B.0.80
C.0.64
D.-1.00
参考答案：A
【莽学解析】The following equation is used to calculate beta:

$$\beta = \rho \times \frac{\sigma_P}{\sigma_B} = 0.8 \times \frac{0.05}{0.04} = 1.00$$

110.In a two-asset portfolio, reducing the correlation between the two assets moves the efficient frontier in which direction?
A.The efficient frontier is stable unless return expectations change. If expectations change, the efficient frontier will extend to the upper right with little or no change in risk.
B.The efficient frontier tends to move down and to the left, representing increased risk from negative correlation.
C.The frontier extends to the left, or northwest quadrant representing a reduction in risk while maintaining or enhancing portfolio returns.
D.The efficient frontier is stable unless the asset’s expected volatility changes. This depends on each asset’s standard deviation.
参考答案：C
【莽学解析】Reducing correlation between the two assets results in the efficient frontier expanding to the left and possibly slightly upward. This reflects the influence of correlation on reducing portfolio risk.减少这两种资产之间的相关性会导致有效边界向左扩展，并可能略微向上扩展。 这反映了相关性对降低投资组合风险的影响。

111.Which is best for RANKING portfolios with the same beta (within peer groups)?
A.Treynor ratio.
B.Sharpe ratio.
C.Jensen’s alpha.
D.None.
参考答案：C
【莽学解析】The Jensen alpha can be used to rank portfolios within peer groups. They group

together portfolios that are managed in a similar manner, and that therefore have comparable levels of risk.詹森阿尔法可用于对同级组中的投资组合进行排名。 他们将以相似方式管理的投资组合在一起，因此具有可比较的风险水平。

112.The beta of stock D is -0.5. If the expected return of Stock D is 8%, and the risk-free rate of return is 5%, what is the expected return of the market?
A.3.0%
B.-1.0%
C.3.5%
D.-4.0%
参考答案：B
【莽学解析】

$$E(R_p) = R_f + \beta[E(R_m) - R_f]$$
$$8\% = 5\% + (-0.5) \times [E(R_m) - 5\%]$$
$$E(R_m) = -1\%$$

113.Which of the following statements regarding the Capital Asset Pricing Model is least accurate?
A.It relies on the existence of a risk-free asset.
B.It is useful for determining an appropriate discount rate.
C.Its accuracy depends upon the accuracy of the beta estimates.
D.It is when the security market line (SML) and capital market line (CML) converge.
参考答案：D
【莽学解析】The CML plots expected return versus standard deviation risk. The SML plots expected return versus beta risk. Therefore, they are lines that are plotted in different two-dimensional spaces and will not converge.CML绘制了预期收益与标准差风险的关系图。 SML绘制了预期收益与beta风险的关系图。 因此，它们是在不同的二维空间中绘制且不会收敛的线。

114.A portfolio has a correlation of 0.40 with the overall market and produces a Sharpe ratio of 0.2. If the market’s volatility is 20%, what is the portfolio’s Treynor ratio?
A.4.0%
B.6.0%
C.10.0%
D.Not enough information.
参考答案：C
【莽学解析】Treynor ratio=0.2×20%/0.4=10%特雷诺比率=0.2×20%/0.4=10%

115.In the context of the CML, the market portfolio includes:
A.12-18 stocks needed to provide maximum diversification
B.all existing risky assets
C.risky stocks and bonds only
D.the risk-free asset
参考答案：B

【莽学解析】The market portfolio has to contain all the stocks, bonds, and risky assets in existence. Because this portfolio has all risky assets in it, it represents the ultimate or completely diversified portfolio.市场投资组合必须包含所有存在的股票，债券和风险资产。 因为此投资组合中包含所有风险资产，所以它代表了最终的或完全分散的投资组合。

116.Which of the following statements concerning the capital asset pricing model （CAPM） and the security market line （SML） is correct?
A.Beta identifies the appropriate level of risk for which an investor should be compensated.
B.Unsystematic risk is not diversifiable, so there is no reward for taking on such risk.
C.Assets with equivalent betas will always earn different returns.
D.The market risk premium is calculated by multiplying beta by the difference between the expected return on the market and the risk-free rate of return.
参考答案：A
【莽学解析】Beta identifies the appropriate level of risk for which an investor should be compensated. Unsystematic risk is asset-specific and, therefore, a diversifiable risk. The market risk premium is calculated as the excess of the expected return on the market over the risk-free rate of return. Assets with equivalent betas should earn the same return because arbitrage will prevent assets with the same risk from earning different returns.Beta 确定了应补偿投资者的适当风险等级。 非系统风险是针对特定资产的，因此是可分散的风险。市场风险溢价的计算方法是预期市场收益率减去无风险收益率。 Beta 值相等的资产应获得相同的回报，因为套利可以防止具有相同风险的资产获得不同的回报。

117.A portfolio with a volatility of 30.0% has a Treynor measure of 0.080. The portfolio has a correlation of 0.50 with the market index which itself has a volatility of 20.0%. What is the portfolio's Sharpe measure?
A.0.095
B.0.200
C.0.330
D.0.475
参考答案：B
【莽学解析】

$$\beta = 0.50 \times 30\%/20\% = 0.750$$

$$TR = \frac{E(R_p) - R_f}{\beta_p} = 0.08 \rightarrow E(R_p) - R_f = 0.75 \times 0.08 = 0.06$$

$$SR = 0.06/30.0\% = 0.20$$

118.During the most recent period, a Portfolio returned 10.3% when the Market return was only 8.0%. The risk-free rate was 2.0%. The Market's return was 8.0% with volatility of 29.0%. Finally, the covariance between the portfolio and Market was 0.134560. Under the CAPM, did the portfolio outperform?
A.No, Jensen's alpha is -1.30%.
B.No, Jensen's alpha is -0.50%.

C. Yes, Jensen's alpha is +0.50%.
D. Yes, Jensen's alpha is +1.30%.
参考答案：A
【莽学解析】

The market risk premium = 8% − 2% = 6%

$\beta(i,M) = \text{covariance}(i,M)/\text{variance}(M) = 0.134560/29\%^2 = 1.60$

Under CAPM, $E(R_i) = R_f + \beta \times [E(R_M) - R_f] = 2\% + 1.60 \times 6\% = 11.60\%$

The Jensen's alpha is 10.3% − 11.6% = −1.30%

市场风险溢价 = 8%－2%=6%β (i,M)=covariance(i, M)/variance(M) =0.134560/29%2=1.60 使用CAPM模型，因此Jensen‘s alpha为10.3%－11.6%=－1.30%

119. A security will produce only two cash flows: $100 at the end of the first year, and $100 at the end of the second year. The risk-free rate is 3.0% and the Market's expected return is 8.0%. The security's volatility is 24.0% and the Market's volatility is 15.0%; the correlation (rho) between the security and the Market is 0.70. Under the capital asset pricing model (CAPM) with annual discounting, what is the present value of the security?
A. $169.01
B. $176.87
C. $185.95
D. $191.35
参考答案：B
【莽学解析】

$\beta(i,M) = \text{covariance}(i,M)/\text{variance}(M) = 24\% \times 15\% \times 0.70/15\%^2 = 1.12$

CAPM: $E(R_i) = R_f + \beta \times [E(R_M) - R_f] = 3\% + 1.12 * (8\% - 3\%) = 8.60\%$

PV (annual compounding) = $100/1.086 + $100/1.086² = $176.87

先求beta系数，再算出CAPM模型下的收益率，最后按照此收益率进行贴现：

120. Jim manages a well-diversified portfolio containing forty stocks. The portfolio has a beta of 1.05. Jim is considering adding the stock of ABC Inc. to the portfolio, and would fund the purchase with cash already in the portfolio. ABC Inc. has a beta of 1.20, and is currently not part of the portfolio. Which statement about the resulting portfolio is TRUE?
A. Systematic risk would increase, but the unsystematic risk would be unchanged.
B. Systematic risk would decrease, but the unsystematic risk would be unchanged.
C. Both systematic risk and unsystematic risk would be unchanged.
D. Both systematic risk and unsystematic risk would both increase.
参考答案：A
【莽学解析】Since the portfolio is well diversified, the assumed level of unsystematic risk is

zero. The addition of ABC Inc will increase the portfolio beta, and, hence, the level of systematic risk.由于投资组合非常分散，因此非系统性风险的假定水平为零。 ABC Inc的加入将增加投资组合的beta，从而提高系统风险水平。

121.Consider the following already-annualized statistics for portfolio (P):
Risk-free rate = 2.00%
Realized portfolio (P) return (average) = 9.50%
Portfolio (P) excess return = 9.50% - 2.00% = 7.50%
Standard deviation of portfolio (P) returns = 14.70%
Minimum acceptable return (MAR) = 6.00%
Downside deviation of portfolio (P) returns = 5.60%

Which are nearest, respectively, to the Sharpe measure and Sortino ratio?
A.0.280 (Sharpe) and 0.100 (Sortino)
B.0.350 (Sharpe) and 0.433 (Sortino)
C.0.510 (Sharpe) and 0.625 (Sortino)
D.0.740 (Sharpe) and 1.290 (Sortino)
参考答案：C
【莽学解析】Sharpe ratio=0.0750/0.1470 = 0.510Sortino Ratio=(9.50%-6.00%)/5.60%=0.6250夏普比率=0.0750/0.1470 = 0.510Sortino Ratio=(9.50%?6.00%)/5.60%=0.6250

122.All of the following are assumptions of the Capital Asset Pricing Model except:
A.Each investor seeks to maximize the expected utility of wealth at the end of that investor’s horizon.
B.Investors can borrow and lend at the same risk-free rate.
C.Investors have the same expectations concerning returns.
D.The time horizons of investors are normally distributed.
参考答案：D
【莽学解析】The CAPM assumes that investors all have the same horizon (as well as expectations). This means that the distribution of the horizons is not normal because normality implies a bell-shaped curve distribution, which would have a positive variance and, hence, dispersion.CAPM假定投资者都有相同的水平线（以及期望）。 这意味着水平线的分布不是正态的，因为正态性意味着钟形曲线分布，该曲线分布将具有正方差并因此具有分散性。

123.A portfolio is invested equally in two asset classes: 50% in bonds with expected return of 4.0% per annum and volatility of 20.0%; equities with expected return of 9.0% per annum and volatility of 32.0%. If the portfolio’s variance is 0.04520, what is the implied correlation (of returns) between bonds and equities?
A.Zero
B.0.019
C.0.300
D.0.467
参考答案：C
【莽学解析】计算过程如下：

$$\sigma_P^2 = W_A^2\sigma_A^2 + W_B^2\sigma_B^2 + 2\rho W_A W_B \sigma_A \sigma_B$$
$$0.04520 = 0.5^2 \times 20\%^2 + 0.5^2 \times 32\%^2 + 2\rho \times 0.5 \times 20\% \times 0.5 \times 32\%$$
$$\rho = 0.3$$

124.In regard to the derivation of the capital asset pricing model (CAPM), each of the following is true EXCEPT for:

A.All investors will hold combinations of only two portfolios: the Market portfolio (M) and a Riskless security. This is called the "two mutual fund theorem" because all investors would be satisfied with a market fund, plus the ability to lend or borrow a riskless security.

B.All portfolios and risky assets must lie on the capital market line (CML).

C.In equilibrium, the Market portfolio lies at the tangency point between the original efficient frontier of risky assets and a straight line passing through the riskless return.

D.The security market line (SML) implies: the relationship between the expected return on any two assets can be related simply to their difference in Beta; the higher Beta is for any security, the higher must be its equilibrium return; and the relationship between Beta and expected return is linear.

参考答案：B

【莽学解析】All investors will end up with portfolios somewhere along the capital market line and all efficient portfolios would lie along the capital market line. However, not all securities or portfolios lie along the capital market line. In fact, from the derivation of the efficient frontier, we know that all portfolios of risky and riskless assets, except those that are efficient, lie below the capital market line.所有投资者最终都将沿着资本市场线找到某个投资组合，而所有有效的投资组合都将沿着资本市场线出现。 但是，并非所有证券或投资组合都位于资本市场上。实际上，从有效边界的推导中，我们知道，除有效资产外，所有有风险和无风险资产的投资组合都位于资本市场线以下。

125.Which of the following is strictly true about the standard version of the capital asset pricing model (CAPM)?

A.The security market line (SML) states that the expected return on any security is the riskless rate of interest plus the market price of risk times the amount of risk in the security or portfolio.

B.If CAPM is valid, then the return of a high-beta should be higher than the return of a low-beta stock over the next calendar year, or for that matter, any given calendar year.

C.All other things being equal, the security market line (SML) implies that higher non-systematic (aka, idiosyncratic) risk will produce higher expected returns.

D.While CAPM characterizes equilibrium in terms of rate of return, it cannot be similarly extended to prices.

参考答案：A

【莽学解析】B is false. Invariably, when a group of investors is first exposed to the CAPM, one or more investors will find a high- Beta stock that last year produced a smaller return than low- Beta stocks. The CAPM is an equilibrium relationship. High- Beta stocks are expected to give a higher return than low- Beta stocks because they are more risky. This does not mean that they will give a higher return over all intervals of time. In fact, if they always gave a higher return, they would be less risky, not more risky, than low- Beta stocks. Rather, because they are more risky, they will sometimes produce lower returns. However, over long periods of time, they should on the average produce higher returns.C is false and it is important in the

CAPM. One of the greatest insights that comes from this equation arises from what it states is unimportant in determining return. The risk of any stock could be divided into systematic and unsystematic risk. Beta was the index of systematic risk. This equation validates the conclusion that systematic risk is the only important ingredient in determining expected returns and that nonsystematic risk plays no role. In other words, the investor gets rewarded for bearing systematic risk. It is not total variance of returns that affects expected returns, but only that part of the variance in returns that cannot be diversified away. This result has great economic intuition for, if investors can eliminate all nonsystematic risk through diversification, there is no reason they should be rewarded, in terms of higher return, for bearing it. All of these implications of the CAPM are empirically testable.D is obviously false as the it can be extended to prices.B是错误的。当一群投资者首次接触CAPM时，一个或多个投资者会发现高贝塔系数的股票去年产生的收益比低贝塔系数的股票要小。 CAPM是一种平衡关系。高贝塔值的股票比低贝塔值的股票有更高的风险，因此期望得到更高的回报。这并不意味着它们将在所有时间间隔内提供更高的回报。实际上，如果它们总是给出较高的回报，则它们的风险将比低Beta股票低，而不是高。相反，由于它们更具风险性，因此有时它们会产生较低的回报。但是，在很长一段时间内，它们平均应该产生更高的回报。C是错误的，这一点在CAPM中很重要。该方程式得出的最深刻的见解之一来自于它在确定回报率时不重要的内容。任何股票的风险都可以分为系统风险和非系统风险。 Beta是系统风险的指标。该方程式验证了以下结论：系统风险是确定预期收益的唯一重要因素，而非系统风险则不起作用。换句话说，投资者因承担系统性风险而获得回报。不是收益的总方差会影响预期收益，而只是收益中方差的一部分不能分散。这个结果具有很大的经济意义，因为如果投资者能够通过分散消除所有非系统性风险，那么就没有理由为他们承担更高的回报。 CAPM的所有这些含义都可以通过经验检验。D显然是错误的，因为它可以扩展到价格。

126.Patricia Franklin makes buy and sell stock recommendations using the capital asset pricing model. Franklin has derived the following information for the broad market and for the stock of the CostSave Company (CS):

Expected market risk premium	8%
Risk-free rate	5%
Historical beta for CostSave	1.50

Franklin believes that historical betas do not provide good forecasts of future beta, and therefore uses the following formula to forecast beta:forecasted beta = 0.80＋0.20×historical betaAfter conducting a thorough examination of market trends and the CS financial statements, Franklin predicts that the CS return will equal 10%. Franklin should derive the following required return for CS along with the following valuation decision (undervalued or overvalued):
A.Valuation CAPM required return\novervalued8.3%
B.overvalued 13.8%
C.undervalued 8.3%
D.undervalued 13.8%
参考答案：B
【莽学解析】
根据CAPM公式: 富兰克林预测CostSave的beta如下:beta forecast = 0.80 ＋0.20 × historical beta =

The CAPM equation is: $E(R_i) = R_f + \beta_i \times [E(R_M) - R_f]$

Franklin forecasts the beta for CostSave as follows:

beta forecast = 0.80 + 0.20 × historical beta = 0.80 + 0.20 × 1.50 = 1.10

The CAPM required return for CostSave Company is: 0.05 + 1.1 × (0.08) = 13.8%

Note that the market premium, $E(R_M) - R_f$, is provided in the question (8%).

Franklin should decide that the stock is overvalued because she forecasts that the CostSave return will equal only 10%, whereas the required return (minimum acceptable return) is 13.8%.

0.80 ＋0.20 × 1.50 = 1.10 CAPM 对于CostSave公司要求的收益率是:0.05＋ 1.1× (0.08) = 13.8% 注意市场溢价,E(RM) - RF是8%.富兰克林应该确定股票被高估，因为她预测CostSave的回报将仅等于10%，而所需的回报（最低可接受的回报）为13.8%。

127.Which of the following statements about systematic and unsystematic risk is least accurate?
A.The unsystematic risk for a specific firm is similar to the unsystematic risk for other firms in the same industry.
B.As an investor increases the number of stocks in a portfolio, the systematic risk will remain constant.
C.Total risk equals market risk plus firm-specific risk.
D.As compared to a less-diversified portfolio, a well-diversified portfolio has lower unsystematic risk.
参考答案：A
【莽学解析】This statement should read, "The unsystematic risk for a specific firm is not similar to the unsystematic risk for other firms in the same industry." Thus, other terms for this risk are firm-specific, or unique, risk.Systematic risk is not diversifiable. As an investor increases the number of stocks in a portfolio the unsystematic risk will decrease at a decreasing rate. Total risk equals systematic (market) plus unsystematic (firm-specific) risk.该声明应为：“特定公司的非系统性风险与同一行业中其他公司的非系统性风险不同。” 因此，此风险的其他术语是公司特定风险或唯一风险。 系统性风险不可分散。 随着投资者增加投资组合中的股票数量，非系统性风险将以降低的速度降低。 总风险等于系统性（市场）加上非系统性（公司特定）风险。

128.A portfolio, invested in two assets with equal weights, has a volatility of 11.18% when the covariance (and correlation) between the asset returns is zero. If the covariance increases from zero to 0.0160, while the weights and individual asset volatilities remain unchanged, what is the change to portfolio volatility?
A.Increase by 3.14%.
B.Increase by 6.29%.
C.Increase by 12.65%.
D.Not enough information.
参考答案：A
【莽学解析】
当协方差从0增加到0.016时，组合方差的变化是 组合的新方差是 所以波动率的变化是

$$\sigma_P^2 = W_A^2\sigma_A^2 + W_B^2\sigma_B^2 + 2W_AW_BCov_{AB}$$

When the covariance increases from zero to 0.016, the change of the portfolio variance will be $2W_AW_BCov_{AB} = 2 \times 50\% \times 50\% \times 0.016 = 0.008$.

The new variance of the portfolio is $11.8\%^2 + 0.008 = 0.020499$.

So the change of volatility is $\sqrt{0.020499} - 11.8\% = 3.1376\%$.

129.The efficient frontier is defined by the set of portfolios that, for each volatility level, maximizes the expected return. According to the capital asset pricing model (CAPM), which of the following statements are correct with respect to the efficient frontier?I. The capital market line is the straight line connecting the risk-free asset with the zero beta minimum variance portfolio.II. The capital market line always has a positive slope and its steepness depends on the market risk premium and the volatility of the market portfolio.III. The complete efficient frontier without a risk-free asset can be obtained by combining the minimum variance portfolio and the market portfolio.IV. The efficient frontier allows different individuals to have different portfolios of risky assets based upon their own risk aversion and forecast for asset returns.V. The efficient frontier assumes no transaction costs, no taxes, a common investment horizon for all investors, and that the return distribution has no skewness.
A.II, III and V
B.I, II and III
C.I, IV and V
D.II, III and IV
参考答案：A
【莽学解析】Within modern portfolio theory, the efficient frontier is a combination of assets that has the best possible expected level of return for its level of risk. The efficient frontier is the positively sloped portion of the opportunity set that offers the highest expected return for a given risk level. The efficient frontier is at the top of the feasible set of portfolio combinations. II, III and V are correct statements.The capital market line connects the risk-free asset and the market portfolio. The efficient frontier does allow investors to have different risk aversions, but assumes that they all have the same forecast for asset returns.在现代投资组合理论中，有效边界是风险水平具有最佳的预期回报水平的资产组合。 有效边界是机会集的正斜率部分，对于给定的风险水平，它提供最高的预期回报。 有效边界位于可行的投资组合组合的顶部。 II，III和V是正确的陈述。?资本市场线将无风险资产和市场投资组合起来。 有效边界确实允许投资者有不同的风险规避，但假定他们对资产收益的预测都相同。

130.In order for CAPM to hold, markets must exhibit the STRONG form of efficiency; is it NOT

enough that markets are weak- or semi-strong efficient. Which assumption is the key to achieving the strong form market efficiency that supports the CAPM conclusion?
A.Investors are risk averse
B.Investors only care about first two moments
C.All investors make the same forecasts concerning the assets
D.Markets are frictionless, without taxes and transaction costs, with infinitely divisible assets
参考答案：C
【莽学解析】Investor homogeneity is arguably the most important, and unrealistic assumption.投资者同质化可以说是最重要但又最不现实的假设

131.Which of the following statements about portfolio risk and diversification is least accurate?
A.Not all risk is diversifiable.
B.Unsystematic risk can be substantially reduced by diversification.
C.Systematic risk can be eliminated by holding securities in a well-diversified international stock portfolio.
D.None of above.
参考答案：C
【莽学解析】Systematic risk cannot be eliminated by diversification. Unsystematic risk can be reduced by diversification. Diversification benefits will occur any time security returns have less than perfect positive correlations.不能通过分散消除系统性风险。 多元化可以减少非系统性风险。 只要安全收益的收益不完全成正相关，就会产生多元化收益。

132.Which of the following is a DIFFERENCE between the capital asset pricing model (CAPM) and the capital market line (CML)
A.The CML does not include the risk-free asset, but CAPM does.
B.CAPM is a special case of the CML, where the portfolio is diversified and efficient.
C.In CAPM, risk is systematic (beta) since it can apply to inefficient portfolios; but in CML, risk is total (volatility) since it only includes efficient portfolios.
D.CAPM assumes the portfolio is diversified and efficient, but CML allows for un-diversified and/or inefficient portfolios.
参考答案：C
【莽学解析】In regard to B, the inverse is true: CML is a special case of SML (CAPM) where the portfolio is efficient and perfectly correlated to the market portfolio.关于B，反之亦然：CML是SML（CAPM）的特例，其中投资组合有效且与市场投资组合完美相关。

133.Portfolio A has an expected return of 8%, volatility of 20%, and beta of 0.5. Assume that the market has an expected return of 10% and volatility of 25%. Also assume a risk-free rate of 5%. What is Jensen’s alpha for portfolio A?
A.0.5%
B.1.0%
C.10%
D.15%
参考答案：A
【莽学解析】The Jensen measure of a portfolio, or Jensen’s alpha, is computed as follows:

$$\alpha_P = E(R_P) - R_F - \beta \times [E(R_M) - R_F] = 8\% - 5\% - 0.5 \times (10\% - 5\%) = 0.5\%$$

134.Assume the risk-free rate is 3.0% and the price of risk (excess market return) is 5.0%. A manager's portfolio produces a return of 9.0% with 30% volatility and a CAPM beta of 0.8. What is the Sharpe ratio?
A.0.0
B.0.2
C.0.4
D.0.6
参考答案：B
【莽学解析】(9% - 3%)/30% = 0.2夏普比率为：(9% - 3%)/30% = 0.2

135.There are both absolute risk (measured without reference to a benchmark) and relative risk (measured against a benchmark) measures of market risk. Which of the following is an absolute measure of market risk?
A.Tracking error
B.Volatility of total returns
C.Correlation with a benchmark portfolio
D.Deviations from a benchmark index
参考答案：B
【莽学解析】Market risk is the risk of losses from movements in market prices. Absolute risk measures these changes in terms of the volatility of total returns. Tracking error is a relative measure of market risk defined as the deviation from a benchmark index. Correlation refers to a benchmark. Deviation from the benchmark index is a consideration in measuring relative risk.?市场风险是因市场价格变动而蒙受损失的风险。 绝对风险根据总收益的波动性来衡量这些变化。 跟踪误差是一种相对于市场风险的相对度量，定义为与基准指数的偏差。 相关性是指跟基准的关系。 偏离基准指数是衡量相对风险的考虑因素。

136.Tim is evaluating 4 funds run by 4 independent managers relative to a benchmark portfolio that has an expected return of 7.4% and volatility of 14%. He is interested in investing in the fund with the highest information ratio that also meets the following conditions in his investment guidelines:I Expected residual return must be at least 2%.II Residual risk relative to the benchmark portfolio must be less than 2.5%.Based on the following information which fund should he choose?
A.Fund A
B.Fund B
C.Fund C
D.Fund D
参考答案：D
【莽学解析】

Fund	Expected Return	Volatility	Residual Risk	Information Ratio
A	9.3%	15.3%		0.8
B		16.4%	2.4%	0.9
C		15.8%	1.5%	1.3
D	9.4%		1.8%	

Expected residual return $= r_P - r_B$

Information ratio $= (r_P - r_B)$/residual risk

Expected residual return$_A = 9.3\% - 7.4\% = 1.9\%$

Expected residual return$_B = 0.9 \times 2.4\% = 2.16\%$

Expected residual return$_C = 1.3 \times 1.5\% = 1.95\%$

Expected residual return$_D = 9.4\% - 7.4\% = 2\%$

Information ratio$_D = 2\% / 1.8\% = 1.1$

Both Fund B and D meet the requirements while Fund D has higher information ratio.

计算数据如下： 基金B和D都满足要求，而基金D的信息比率更高。

137. James Tulsma, FRM, is analyzing a publicly traded firm and is using the company's beta, the risk-free rate of return, and the expected return on the market to estimate the company's required rate of return. He is somewhat concerned that the underlying assumptions of this technique are not realistic. Which of the following statements is an assumption of the capital asset pricing model (CAPM)?

A. Investors minimize their expected utility of wealth at the end of the period.

B. Investors are risk-neutral.

C. Investors are only concerned with the mean and standard deviation of returns.

D. Assets are not divisible.

参考答案：C

【莽学解析】The capital asset pricing model (CAPM) assumes the following:? Investors desire to maximize their expected utility of wealth at the end of next period.? Investors are risk averse.? Investors are only concerned with the mean and standard deviation of returns.? Assets are fully divisible.资本资产定价模型（CAPM）假定以下条件：?投资者希望在下一期末最大限度地发挥其预期的财富效用。?投资者规避风险。?投资者仅关注收益的均值和标准差。?资产是完全可分割的。

138. You are evaluating the historical performance of four equity funds benchmarked to the BSE SENSEX Index, as shown in the table below:

Which fund has the highest information ratio?

	Average Annual Return	Average Excess Return	Standard Deviation of Returns	Tracking Error
Fund A	15.45%	2.95%	15.00%	4.20%
Fund B	14.10%	1.60%	12.00%	1.50%
Fund C	20.50%	8.00%	22.00%	8.70%
Fund D	16.75%	4.25%	18.10%	5.10%

A. Fund A
B. Fund B
C. Fund C
D. Fund D
参考答案：B
【莽学解析】IR = Average Excess Return / Tracking ErrorFund B has the highest information ratio IR = Average Excess Return / Tracking Error Fund B 的Information ratio最高

139. Assume the market index return is 8.0% while the risk-free rate is 3.0%. A portfolio with a volatility of 12.0% has a Sharpe measure of 0.50 and a Treynor measure of 0.20. What is the portfolio's alpha?
A. -2.79%
B. 1.16%
C. 3.83%
D. 4.50%
参考答案：D
【莽学解析】

$$\text{The portfolio's excess return} = \text{Sharpe ratio} \times \text{volatility} = 0.50 \times 12\% = 6.0\%$$

$$\text{Its beta} = (\text{excess return})/\text{Treynor ratio} = 6.0\%/0.20 = 0.30$$

$$\text{Portfolio alpha} = (\text{portfolio's excess return}) - \text{beta} * (\text{market premium})$$
$$= 6.0\% - 0.30 \times 5.0\% = 4.5\%$$

组合的超额收益 = 0.50×12% = 6.0% beta = 6.0%/0.20 = 0.30 组合的 alpha = 6.0%-0.30×5.0%=4.5%

140. A portfolio has an expected return of 11.0% with volatility of 24.0%. The benchmark has an expected return of 5.0% with volatility of 15%. The expected returns correlation is 0.80. What is the expected (ex ante) information ratio (IR)?
A. 0.40
B. 0.55
C. 0.69
D. 0.80
参考答案：A
【莽学解析】Tracking error = SQRT(24%^2 15%^2 - 2*24%*15%*0.80) = 15.0%Information ration = E[R(P) - R(B)]/TE = (11%-5%)/15% = 0.40Tracking error = SQRT(24%^2 15%^2 - 2*24%*15%*0.80) =

15.0% Information ration = E[R(P) - R(B)]/TE = (11%-5%)/15% = 0.40

141.Given a beta of 1.10 and a risk-free rate of 5%, what is the expected rate of return assuming a 10% market return?

A.15.5%

B.21.5%

C.5.5%

D.10.5%

参考答案：D

【莽学解析】

$$E(R_p) = R_f + \beta[E(R_m) - R_f]$$

$$E(R_p) = 5\% + 1.10 \times (10\% - 5\%)$$

$$E(R_p) = 10.5\%$$