1. **Question:** Competition among savvy investors who try to “beat the market” and earn a positive alpha should keep their portfolio close to the market portfolio much of the time. **Answer:** True **Feedback:** This is TRUE. Such competition forces prices toward equilibrium, making the market portfolio efficient.
2. **Question:** Because beating the market requires enough trading skill to overcome transaction costs as well as behavioral biases, CAPM wisdom that investors should “hold the market” is probably the best advice for most people. **Answer:** True **Feedback:** This is TRUE. Most investors lack the skills and information advantage needed to beat the market consistently.
3. **Question:** If all investors have homogeneous expectations, which states that all investors have the same information, all investors would be aware that the stock had a positive alpha and none would be willing to sell. **Answer:** True **Feedback:** This is TRUE. Homogeneous expectations imply rapid price adjustments and no arbitrage opportunities.
4. **Question:** An important conclusion of the CAPM is that investors should never hold the market portfolio combined with risk-free investments. **Answer:** False **Feedback:** This is FALSE. CAPM recommends combining the market portfolio with the risk-free asset based on investor risk preferences.
5. **Question:** Securities always have zero calculated alphas if the market portfolio that is used is not a good proxy for the true market portfolio. **Answer:** False **Feedback:** This is FALSE. If the market portfolio proxy is poor, calculated alphas may deviate from zero.
6. **Question:** There is evidence that individual investors fail to diversify their portfolios adequately (underdiversification bias) and favor investments in companies they are familiar with (familiarity bias). **Answer:** True **Feedback:** This is TRUE. These are common behavioral biases observed in retail investor behavior.
7. **Question:** An alternative reason why investors make similar trading errors is that they are actively trying to follow each other’s behavior. This phenomenon, in which individuals imitate each other’s actions, is referred to as disposition effect. **Answer:** False **Feedback:** This is FALSE. The behavior described is herd behavior, not the disposition effect.
8. **Question:** The idea that investors can tailor their risk exposures based on common risk factors has become known amongst as a smart beta strategy. **Answer:** True **Feedback:** This is TRUE. Smart beta strategies target systematic risk factors like value or momentum.
9. **Question:** We call the tendency to hang on to losers and sell winners the herd behavior. **Answer:** False **Feedback:** This is FALSE. That’s the disposition effect, not herd behavior.
10. **Question:** The relative wealth concerns bias suggests that investors care most about the performance of their portfolio relative to that of their peers. **Answer:** True **Feedback:** This is TRUE. Investors often benchmark themselves against peers rather than absolute performance.
11. **Question:** The disposition effect refers to investors' tendency to sell winning investments too early and hold onto losing investments for too long due to their preference for realizing losses. **Answer:** False **Feedback:** The disposition effect means investors sell winners too early and hold on to losers too long, avoiding the realization of losses even when it hurts long-term performance.
12. **Question:** Herd behavior occurs when investors follow the actions of others rather than relying on their own analysis, often leading to market bubbles and crashes. **Answer:** True **Feedback:** This is TRUE. Herding amplifies mispricings and volatility.
13. **Question:** The disposition effect suggests that investors are more likely to sell losing investments too early and hold onto winning investments for too long, driven by a preference for realizing gains. **Answer:** False **Feedback:** This is FALSE. It's the opposite: investors often hold onto losing stocks and sell winners too early.
14. **Question:** In an efficient market, asset prices fully reflect all available information, making it impossible for investors to consistently outperform the market. **Answer:** True **Feedback:** This is TRUE. This is the foundation of the Efficient Market Hypothesis (EMH).
15. **Question:** Weak form market efficiency implies that past prices and trading volumes cannot be used to predict future price movements, as they are already reflected in current prices. **Answer:** True **Feedback:** This is TRUE In weak-form efficiency, past prices already reflect all available information. Returns follow a random walk, so technical analysis cannot systematically predict future movements.
16. **Question:** In a semi-strong form efficient market, prices reflect all public information as well as private information known only to a select group of investors. **Answer:** False **Feedback:** This is FALSE. That would be **strong-form** efficiency.
17. **Question:** Strong form market efficiency suggests that even insider information cannot be used to consistently achieve abnormal returns, as it is already reflected in asset prices. **Answer:** True **Feedback:** This is TRUE. Strong-form implies prices reflect **all** information, public and private.
18. **Question:** Market efficiency suggests that it is difficult for investors to consistently identify undervalued or overvalued securities through fundamental or technical analysis. **Answer:** True **Feedback:** This is TRUE. Market efficiency means arbitrage opportunities are rare and fleeting.
19. **Question:** In a perfectly efficient market, prices reflect all information instantaneously, leaving very limited room for arbitrage opportunities. **Answer:** True **Feedback:** This is TRUE. Perfect efficiency eliminates arbitrage.
20. **Question:** If investors have relative wealth concerns, they care most about their current portfolio performance relative to their past portfolio performance. **Answer:** False **Feedback:** This is FALSE. Relative wealth concerns are about performance **compared to others**, not to oneself.
21. **Question:** Strong-form efficiency implies that professional investors cannot consistently outperform the market. **Answer:** True **Feedback:** This is TRUE. Even insiders can’t consistently beat the market in strong-form efficiency.
22. **Question:** Semi strong-form efficiency implies that professional investors may outperform the market if they acquire private information prior to the market. **Answer:** True **Feedback:** This is TRUE. Semi-strong efficiency only incorporates **public** information.
23. **Question:** Semi strong-form efficiency implies that stock prices reflect all available information.  
    **Answer:** False **Feedback:** This is FALSE. It reflects **public** info only, not all information.
24. **Question:** If the CAPM holds, the expected return of a security is determined solely by its beta relative to the market portfolio. **Answer:** False **Feedback:** This is FALSE. While CAPM uses beta, the risk-free rate also matters.
25. **Question:** According to the CAPM, investors can achieve better returns without increasing risk by selecting stocks with lower betas. **Answer:** False **Feedback:** This is FALSE. Lower betas mean lower expected returns under CAPM.
26. **Question:** A zero-beta security is expected to earn the risk-free rate in an efficient market. **Answer:** True **Feedback:** This is TRUE. Under CAPM, a zero-beta asset has the same expected return as the risk-free asset.
27. **Question:** If a stock has a positive alpha, it suggests that the stock is offering a return higher than predicted by its risk level under the CAPM. **Answer:** True **Feedback:** This is TRUE. Positive alpha means the stock is "beating the market" relative to its beta.
28. **Question:** According to the CAPM, an investor’s optimal portfolio should always include only high-beta stocks. **Answer:** False **Feedback:** This is FALSE. CAPM suggests a combination of the risk-free asset and the market portfolio, regardless of individual stock betas.
29. **Question:** Anomalies, such as the momentum effect, suggest that the CAPM may not fully explain stock returns. **Answer:** True **Feedback:** This is TRUE. Such anomalies challenge the CAPM’s assumptions.
30. **Question:** Under the CAPM, investors who are more risk-averse will hold only risk-free assets. **Answer:** False **Feedback:** This is FALSE. They will combine the risk-free asset with the market, not hold only the risk-free asset.
31. **Question:** The small-firm effect states that large-cap stocks consistently outperform small-cap stocks after adjusting for risk. **Answer:** False **Feedback:** This is FALSE. The small-firm effect claims small stocks outperform, not the other way around.
32. **Question:** Overconfidence bias can lead investors to trade more frequently than is optimal, often reducing their overall returns. **Answer:** True **Feedback:** This is TRUE Overconfident investors believe too strongly in their skill to pick stocks, which leads to excessive trading and higher transaction costs, reducing net returns.
33. **Question:** If markets are efficient, it is difficult for actively managed mutual funds to consistently outperform passive index funds after fees. **Answer:** True **Feedback:** This is TRUE. Market efficiency implies most managers underperform after costs.
34. **Question:** Herding behavior in financial markets often leads to a reduction in price volatility. **Answer:** False **Feedback:** This is FALSE. Herding typically increases volatility and may lead to bubbles.
35. **Question:** Investors suffering from the disposition effect tend to sell winning stocks too quickly while holding onto losing stocks for too long. **Answer:** True **Feedback:** This is TRUE. It’s a documented behavioral bias.
36. **Question:** In an efficient market, arbitrage opportunities persist for long periods before being corrected. **Answer:** False **Feedback:** This is FALSE. Arbitrage opportunities are quickly exploited.
37. **Question:** Liquidity risk can cause deviations from market efficiency, as investors demand a premium for holding less liquid assets. **Answer:** True **Feedback:** This is TRUE. Illiquidity may lead to price inefficiencies and higher expected returns.
38. **Question:** The CAPM predicts that stocks with higher idiosyncratic risk should have higher expected returns. **Answer:** False **Feedback:** This is FALSE. CAPM only compensates for systematic risk (beta), not idiosyncratic risk.
39. **Question:** Rational expectations suggest that investors will correctly incorporate all available information into their asset pricing decisions. **Answer:** True **Feedback:** This is TRUE. Rational expectations are a cornerstone of efficient markets.
40. **Question:** A major critique of the CAPM is that it accounts for multiple sources of systematic risk beyond market risk. **Answer:** False **Feedback:** This is FALSE. CAPM accounts for only **one** source—market beta. Other models (e.g., Fama-French) include additional factors.
41. **Question:** Market anomalies challenge the validity of the efficient market hypothesis and suggest potential mispricing. **Answer:** True **Feedback:** This is TRUE. Anomalies like momentum or small-cap premiums contradict EMH.
42. **Question:** The Fama-French three-factor model extends the CAPM by including size and value factors in addition to market risk. **Answer:** True **Feedback:** This is TRUE. The model adds SMB (size) and HML (value) to improve explanatory power.
43. **Question:** According to the CAPM, stocks with negative betas should have higher expected returns than the risk-free rate. **Answer:** False **Feedback:** This is FALSE. Negative beta implies an expected return **lower** than the risk-free rate.
44. **Question:** A stock’s alpha measures its total risk rather than its risk-adjusted return relative to the market. **Answer:** False **Feedback:** This is FALSE. Alpha is a **risk-adjusted** measure of abnormal return.
45. **Question:** Momentum investing is based on the observation that stocks that have performed well in the past tend to continue performing well in the near future. **Answer:** True **Feedback:** This is TRUE. Momentum strategies exploit return persistence.
46. **Question:** If market efficiency holds, then insider trading should not yield consistent excess returns over time. **Answer:** True **Feedback:** This is TRUE under strong-form efficiency, though real markets may differ.
47. **Question:** The risk-free rate in the CAPM is typically the expected return of the overall stock market. **Answer:** False **Feedback:** This is FALSE. In CAPM, the risk-free rate is the return on a default-free asset (like T-bills or Selic rate), not the expected return on the stock market. The market return is the risky component above the risk-free rate.
48. **Question:** The equity risk premium represents the additional return investors require for holding risky stocks over risk-free assets. **Answer:** True **Feedback:** This is TRUE. The premium compensates for bearing systematic risk.
49. **Question:** The arbitrage pricing theory (APT) suggests that multiple risk factors beyond market beta can influence asset returns. **Answer:** True **Feedback:** This is TRUE. APT is a multifactor model that generalizes CAPM.
50. **Question:** A positive alpha indicates that a stock is expected to perform worse than predicted by the CAPM. **Answer:** False **Feedback:** FALSE. A positive alpha means **better** performance than CAPM predicts.
51. **Question:** According to the CAPM, the average alpha of all assets in the market is zero. **Answer:** True **Feedback:** TRUE. In equilibrium, alphas average out to zero.
52. **Question:** The no-trade theorem suggests that if all investors are rational and informed, prices will adjust without the need for actual trading. **Answer:** True **Feedback:** This is TRUE. No-trade results when all prices reflect common expectations.
53. **Question:** Underdiversification bias is often explained by investors’ desire to seek maximum return regardless of risk. **Answer:** False **Feedback:** This is FALSE. Underdiversification is more about familiarity bias and social concerns than risk-seeking.
54. **Question:** Overconfidence bias can lead investors to trade excessively and incur higher transaction costs. **Answer:** True **Feedback:** This is TRUE. Overconfident investors trade too much and perform worse net of costs.
55. **Question:** The disposition effect leads investors to sell losing stocks quickly and hold onto winners.  
    **Answer:** False **Feedback:** This is FALSE. The disposition effect causes the **opposite** behavior.
56. **Question:** Sunshine and investor mood have no documented relationship with stock market returns.  
    **Answer:** False **Feedback:** This is FALSE. Studies have found mood-related effects on returns.
57. **Question:** Herd behavior occurs when investors make similar decisions because they have access to the same private information. **Answer:** False **Feedback:** This is FALSE. Herding comes from imitation, not shared information.
58. **Question:** According to the book, the average mutual fund manager earns a negative alpha after accounting for fees. **Answer:** True **Feedback:** This is TRUE. Most mutual funds underperform after fees.
59. **Question:** Momentum strategies, such as buying past winners, contradict CAPM predictions. **Answer:** True **Feedback:** This is TRUE. CAPM assumes past returns don’t predict future returns.
60. **Question:** Investors with overconfidence bias tend to underestimate risk and overestimate their ability to predict market movements. **Answer:** True **Feedback:** This is TRUE. Overconfident investors misjudge their forecasting skills and take excessive risks.
61. **Question:** Familiarity bias leads investors to avoid domestic stocks in favor of international diversification. **Answer:** False **Feedback:** This is FALSE. Familiarity bias leads investors to concentrate in familiar assets (e.g., domestic or employer stock), reducing diversification and exposing them to unnecessary idiosyncratic risk.
62. **Question:** Behavioral finance assumes that all investors process information rationally and without emotion. **Answer:** False **Feedback:** This is FALSE. Behavioral finance studies how cognitive biases and emotions affect financial decisions.
63. **Question:** The CAPM cannot explain momentum because it assumes that past returns do not affect future performance. **Answer:** True **Feedback:** This is TRUE. Momentum contradicts the CAPM assumption that markets are efficient and past prices are irrelevant.
64. **Question:** Day traders consistently outperform the market due to their speed and access to real-time data. **Answer:** False **Feedback:** This is FALSE. Most studies show that frequent traders tend to underperform after costs.
65. **Question:** The no-trade theorem suggests that in the presence of common knowledge, prices adjust without requiring actual trades. **Answer:** True **Feedback:** This is TRUE. If everyone interprets information the same way, no trade is necessary for price adjustment.
66. **Question:** An investor who follows a momentum strategy is trying to buy undervalued stocks based on fundamentals. **Answer:** False **Feedback:** This is FALSE. Momentum is based on **past price trends**, not fundamental valuation.
67. **Question:** The Fama-French-Carhart model includes a factor for momentum in addition to market, size, and value. **Answer:** True **Feedback:** This is TRUE. The Carhart extension adds a momentum factor to the original Fama-French three-factor model.
68. **Question:** Investors who suffer from sensation-seeking bias may take excessive risks for excitement rather than rational return. **Answer:** True **Feedback:** This is TRUE. Sensation seekers are drawn to high-risk trades for the thrill.
69. **Question:** The CAPM explains anomalies like the small-firm and value effects through time-varying betas. **Answer:** False **Feedback:** This is FALSE. These anomalies suggest **limitations** of the CAPM and led to the development of multifactor models.
70. **Question:** Smart beta strategies aim to outperform the market using rules-based exposure to specific risk factors. **Answer:** True **Feedback:** This is TRUE. Smart beta blends passive investing with factor-based portfolio construction.
71. **Question:** Herding behavior contributes to financial bubbles by pushing asset prices beyond fundamental values. **Answer:** True **Feedback:** This is TRUE. Herding amplifies trends and can create speculative bubbles.
72. **Question:** Strong-form market efficiency allows for arbitrage opportunities if investors act quickly. **Answer:** False **Feedback:** This is FALSE. In strong-form efficiency, even private info is reflected in prices, leaving no arbitrage opportunities.
73. **Question:** Rational expectations require that all investors have identical preferences and goals. **Answer:** False **Feedback:** This is FALSE. Rational expectations require that investors use information correctly, not that preferences are identical.
74. **Question:** Liquidity constraints can lead investors to deviate from the market portfolio even if they are rational. **Answer:** True **Feedback:** This is TRUE. Constraints like trading costs or illiquidity can justify deviations from the CAPM.
75. **Question:** The average investor in mutual funds tends to underperform the funds themselves due to poor timing decisions. **Answer:** True **Feedback:** This is TRUE. Many investors buy high and sell low, earning less than the fund’s average return.
76. **Question:** Value stocks tend to have low book-to-market ratios and high growth expectations. **Answer:** False **Feedback:** This is FALSE. Value stocks have **high** book-to-market ratios and are often underpriced.
77. **Question:** Behavioral biases can explain why some investors systematically earn negative alphas. **Answer:** True **Feedback:** This is TRUE. Poor decisions driven by biases can lead to consistent underperformance.
78. **Question:** If markets are semi-strong efficient, fundamental analysis should be able to consistently identify mispriced stocks. **Answer:** False **Feedback:** This is FALSE. Semi-strong efficiency implies that all **public** info is already reflected in prices.
79. **Question:** A negative alpha indicates that a stock is underpriced relative to its risk. **Answer:** False **Feedback:** This is FALSE. A negative alpha means the stock is **overpriced** relative to its risk.
80. **Question:** When a trading strategy yields positive alpha persistently, it suggests the existence of market inefficiency. **Answer:** True **Feedback:** This is TRUE. Persistent positive alpha suggests mispricing or risk not captured by standard models.
81. **Question:** The tendency to invest in one's employer’s stock is an example of underdiversification. **Answer:** True **Feedback:** This is TRUE. This increases exposure to idiosyncratic risk tied to employment.
82. **Question:** If all investors followed the CAPM strictly, anomalies like momentum would not exist. **Answer:** True **Feedback:** This is TRUE. CAPM predicts no arbitrage or persistent mispricing.
83. **Question:** The presence of tax incentives can sometimes justify behavioral biases like the disposition effect. **Answer:** False **Feedback:** This is FALSE. Disposition effect often runs **against** optimal tax strategies, like deferring gains.
84. **Question:** The Fama-French model was designed to correct for CAPM’s inability to explain all sources of stock return variation. **Answer:** True **Feedback:** This is TRUE. The additional factors aim to capture systematic risks not explained by CAPM beta.
85. **Question:** According to behavioral finance, all anomalies are eventually corrected by arbitrage. **Answer:** False **Feedback:** This is FALSE. Limits to arbitrage can allow anomalies to persist.
86. **Question:** Excessive trading caused by overconfidence typically results in higher net returns after fees. **Answer:** False **Feedback:** This is FALSE. Overtrading increases costs and reduces net performance.
87. **Question:** Portfolio alpha can be improved by buying assets above the SML and avoiding those below it. **Answer:** True **Feedback:** This is TRUE. Assets above the SML have positive alpha and improve Sharpe ratio.
88. **Question:** Market efficiency implies that active management can still beat the market using proprietary models. **Answer:** False **Feedback:** This is FALSE. Under efficiency, consistent outperformance is unlikely even with proprietary methods.
89. **Question:** Investors exposed to media hype may be more prone to attention-based trading errors. **Answer:** True **Feedback:** This is TRUE. Attention-grabbing news influences behavior even when unrelated to fundamentals.
90. **Question:** Arbitrage pricing theory assumes that arbitrage opportunities will always be immediately eliminated. **Answer:** False **Feedback:** This is FALSE. APT allows for temporary deviations; arbitrage requires assumptions like frictionless markets.
91. **Question:** Investors tend to overreact to new information, leading to temporary mispricing. **Answer:** True **Feedback:** This is TRUE. Overreaction is a common behavioral bias and can explain short-term anomalies.
92. **Question:** Emotional investing decisions can lead to suboptimal asset allocations and lower returns. **Answer:** True **Feedback:** This is TRUE. Emotions often override rational judgment, hurting performance.
93. **Question:** Passive investment strategies have been shown to outperform the majority of active strategies over time. **Answer:** True **Feedback:** This is TRUE. Evidence shows most active funds underperform benchmarks after costs.
94. **Question:** Efficient market hypothesis and behavioral finance are mutually exclusive frameworks. **Answer:** False **Feedback:** This is FALSE. They offer different perspectives; many investors use insights from both.
95. **Question:** The difference between a stock’s expected return and its required return according to the capital market line (CML) is the stock’s alpha. **Answer:** False **Feedback:** This is FALSE. Alpha measures abnormal return relative to the Security Market Line (expected return vs. beta). The Capital Market Line relates expected return to total volatility, not alpha.
96. **Question:** According to the no-trade theorem, if all investors interpret information identically, security prices will adjust immediately without requiring actual trades. **Answer:** True **Feedback:** This is TRUE. When expectations are common knowledge, prices reflect new information instantly, eliminating the need for trading.
97. **Question:** Value stocks are typically characterized by low book-to-market ratios and high growth expectations. **Answer:** False **Feedback:** This is FALSE. Value stocks have **high book-to-market ratios**, often reflecting lower growth expectations and potential undervaluation.
98. **Question:** The Arbitrage Pricing Theory (APT) differs from CAPM by allowing multiple factors to explain returns, rather than relying on a single market beta. **Answer:** True **Feedback:** This is TRUE. APT is a multifactor model that explains returns using several systematic risk sources, unlike the one-factor CAPM.
99. **Question:** Excessive trading by overconfident investors usually improves their net returns after fees. **Answer:** False **Feedback:** This is FALSE. Overconfidence leads to overtrading, which increases transaction costs and typically reduces overall performance.
100. **Question:** Momentum strategies, such as buying recent winners and selling losers, are inconsistent with CAPM predictions. **Answer:** True **Feedback:** This is TRUE. CAPM assumes past returns should not predict future returns, so momentum is an anomaly that challenges the model.

**Q1.**

**Discuss the implications of the Efficient Market Hypothesis (EMH) for professional fund managers. Under which form(s) of market efficiency would active management be least valuable, and why?**

**📘 Suggested Model Answers**

**Q1 – EMH and professional fund managers**

* The Efficient Market Hypothesis (EMH) implies that prices reflect available information.
* Under the **strong form**, even insider information is already incorporated, so active management cannot consistently add value.
* Under the **semi-strong form**, public information is reflected in prices, so fundamental and technical analysis should not generate abnormal returns.
* Active management may only be valuable in **inefficient markets** (emerging, illiquid, or with behavioral biases).
* Professional managers can still add value through **risk management, discipline, diversification, and asset allocation**, even if stock picking does not outperform.

**Q2.**

**Explain the behavioral finance concept of overconfidence. How does overconfidence among investors affect trading volume, asset prices, and overall market efficiency?**

**📘 Suggested Model Answers**

**Q2 – Overconfidence**

* Overconfident investors overestimate the accuracy of their information or their skill.
* Consequences:
  + **Excessive trading volume**.
  + **Underestimation of risks**.
  + **Higher volatility** as prices adjust more frequently.
  + **Lower net returns** due to transaction costs.
* Market impact: prices may deviate from fundamentals, reducing overall efficiency.

**Q3.**

**What is the momentum anomaly, and why does it pose a challenge to the predictions of the CAPM and EMH? Provide an example of how investors or fund managers might attempt to exploit momentum.**

**📘 Suggested Model Answers**

**Q3 – Momentum anomaly**

* **Momentum:** assets that performed well in the recent past tend to keep performing well in the short term (3–12 months).
* **Challenge to CAPM/EMH:**
  + CAPM predicts returns depend only on beta, not past performance.
  + EMH suggests returns should follow a random walk.
* Investors may exploit momentum through **buying winners and selling losers** strategies.
* Explanations include **behavioral biases** (underreaction, herding) or **risk factors not captured by CAPM**.

**Q4.**

**Describe herding behavior in financial markets. What factors contribute to herding, and what potential consequences can it have for market stability and efficiency?**

**📘 Suggested Model Answers**

**Q4 – Herding behavior**

* Herding occurs when investors mimic the actions of others, disregarding their own information.
* **Drivers:**
  + Fear of missing out (FOMO).
  + Reputation concerns (managers do not want to appear “out of consensus”).
  + Following noisy or ambiguous signals.
* **Consequences:**
  + Price bubbles.
  + Higher volatility.
  + Liquidity crises when everyone sells simultaneously.
  + Market inefficiency.

**Q5.**

**Investor sentiment is often cited as a driver of bubbles and crashes. Discuss how psychological biases and sentiment can push asset prices away from fundamentals. Give one historical example.**

**📘 Suggested Model Answers**

**Q5 – Investor sentiment and bubbles**

* Investor sentiment can push prices away from fundamentals (excess optimism or pessimism).
* **Psychological biases involved:**
  + Overconfidence, trend extrapolation, optimism/pessimism cycles.
* **Historical examples:**
  + **Dot-com bubble (1999–2000).**
  + **Housing bubble (2007–2008).**
  + **Tulip mania (17th century).**
* Link to crashes: sudden sentiment reversals trigger sharp corrections.