

### Question #1 of 60

B) is consistent with CFA Institute Standards only if fully disclosed to clients.

#### Explanation

**Standard VI(A).** The compensation plan is acceptable under Standard VI(A) Conflicts of Interest - Disclosure of Conflicts, but Chester must disclose the plan to clients. The firm's equity strategy is described as "large cap core." The S&P 500 Index is an appropriate benchmark for such a strategy, but the incentive for portfolio managers is to invest outside the index in order to achieve excess returns. Managers may be motivated to invest in securities that would not be consistent with client objectives or risk profiles.

#### **For Further Reference:**

Study Session 1, LOS 2.a

SchweserNotes: Book 1, p.5

CFA Program Curriculum: Vol.1 p.21

### Question #2 of 60

B) accept the Grumpp committee position only after disclosing the offer to his supervisor.

#### Explanation

**Standard VI(A).** Rogers must discuss the offer with supervisory personnel at Chester before accepting the offer. His employer then has the opportunity to evaluate the effect of the offer on Rogers's ability to continue to perform his duties for Chester. The foundation is very large, and the position appears likely to consume much of Rogers's time and effort. If compensation is involved, Rogers would have to decline the offer unless Chester consented to the arrangement.

#### **For Further Reference:**

Study Session 1, LOS 2.a

SchweserNotes: Book 1, p.5

CFA Program Curriculum: Vol.1 p.21

### Question #3 of 60

A) Chester's performance claims are inconsistent with CFA Institute Standards, but his use and reference to the CFA designation is appropriate.

#### Explanation

**Standard III(D).** Chester has violated Standard III(D) Duties to Clients - Performance Presentation. The claim in itself is acceptable. Rogers's superior performance has lasted only a short time, and the advertising does not suggest otherwise. However, the superior performance has been achieved by investing in small cap securities, which is inconsistent with the stated style of Chester's equity management. Unless Chester discloses this change in style, the performance claims do not accurately reflect the firm's performance. Chester has not violated the Standards regarding use of and reference to the CFA designation. Rogers's use of the CFA designation is acceptable, and the quote stating that a CFA charterholder is committed to high ethical standards is acceptable as well.

#### **For Further Reference:**

Study Session 1, LOS 2.a

SchweserNotes: Book 1, p.5

CFA Program Curriculum: Vol.1 p.21

### Question #4 of 60

C) unless she obtained permission from Chester Brothers, LLC.

#### Explanation

**Standard IV(A).** Pierce should not have taken any employer records, and the computer model was Chester's property, regardless of her co-worker's role in developing the model. Pierce has violated Standard IV(A) Duties to Employers - Loyalty by taking the model without Chester's consent.

#### **For Further Reference:**

Study Session 1, LOS 2.a

SchweserNotes: Book 1, p.5

CFA Program Curriculum: Vol.1 p.21

### Question #5 of 60

C) disclosed Chester's new compensation program.

#### Explanation

**Standard IV(A).** Pierce took no client records with her from Chester. It is reasonable to assume that she is using publicly available information to contact her former clients. So long as Pierce did not have a non-compete agreement, the standards do not preclude her from contacting former clients or encouraging them to move their accounts. The violation in this case was disclosing the new compensation plan. This plan should be disclosed to Chester's clients by Chester. Pierce does not have whistleblower status in this case because she stands to receive a personal gain by bringing her former clients to Cheeri. By disclosing the plan, Pierce has violated Standard IV(A) Duties to Employers - Loyalty by attempting to injure her former employer. Note that the compensation plan is not illegal; it is only a policy that should be disclosed. Had there been an illegal activity, Pierce might have had more justification as a whistleblower.

#### **For Further Reference:**

Study Session 1, LOS 2.a

SchweserNotes: Book 1, p.5

CFA Program Curriculum: Vol.1 p.21

### Question #6 of 60

C) the results misrepresent Pierce's large cap performance.

#### Explanation

**Standard III (D).** The problem is that Pierce's performance over the past three quarters arose from large cap securities, not small cap securities. Excluding these results misrepresents her ability as a large cap manager. The Standards do not require compliance with GIPS, nor do they require that previous employer results be excluded. Stating results of a specific style, such as large cap, is acceptable if it is accurate.

#### **For Further Reference:**

Study Session 1, LOS 2.a

SchweserNotes: Book 1, p.5

CFA Program Curriculum: Vol.1 p.21

### Question #7 of 60

A) -\$191,914.

**Explanation**

2009 sales forecast =  $20.1 + 0.001 \times 8,000 + 1,000.6 \times 0.05 + 0.1 \times 97 - 3.2 \times 60,000 - 40.3 \times 0.055 = -\$191,914$

**For Further Reference:**

Study Session 3, LOS 10.e

SchweserNotes: Book 1, p.144

CFA Program Curriculum: Vol.1 p.329

**Question #8 of 60**

B) Yes, because  $1.75 > 1.67$ .

**Explanation**

Using a two-tail test at the 10% significance level, the critical value of the  $t$ -statistic equals 1.67 (degrees of freedom equal  $N - k - 1 = 76 - 5 - 1 = 70$ ). The  $t$ -statistic (1.75) exceeds its critical value using a 10% significance level.

**For Further Reference:**

Study Session 3, LOS 10.c

SchweserNotes: Book 1, p.140

CFA Program Curriculum: Vol.1 p.320

**Question #9 of 60**

C) the PC variable is not a statistically significant variable.

**Explanation**

As a general rule, any independent variable must have a  $t$ -statistic of 2 or more to be statistically significant. There is no indication that sales cannot be modeled. The main weakness in this model is the lack of significance of the PC variable.

**For Further Reference:**

Study Session 3, LOS 10.a

SchweserNotes: Book 1, p.138

CFA Program Curriculum: Vol.1 p.318

**Question #10 of 60**

C) 336.0.

**Explanation**

The  $F$ -value is calculated as (mean regression sum of squares) / (mean squared error) =  $(412,522/5) / (17,188/70) = 336$ .

**For Further Reference:**

Study Session 3, LOS 10.g

SchweserNotes: Book 1, p.146

CFA Program Curriculum: Vol.1 p.331

**Question #11 of 60**

A) biased upward.

**Explanation**

Clark finds that the correlation between the regression errors across time was very close to 1, indicating the presence of significant positive serial correlation. Positive serial correlation causes the standard errors to be too small, which then causes the *t*-statistics to be too large (biased upward).

**For Further Reference:**

Study Session 3, LOS 10.k  
SchweserNotes: Book 1, p.158  
CFA Program Curriculum: Vol.1 p.338

**Question #12 of 60**

A) conditional heteroskedasticity.

**Explanation**

A regression exhibits conditional heteroskedasticity if the variance of the regression errors are not constant and are related to the regression independent variables. Clark's Finding 2 indicates that his regression exhibits conditional heteroskedasticity.

**For Further Reference:**

Study Session 3, LOS 10.k  
SchweserNotes: Book 1, p.158  
CFA Program Curriculum: Vol.1 p.338

**Question #13 of 60**

A) \$40,877.

**Explanation**

The accounting for an ownership interest of between 20% and 50% in an associate is handled using the equity method. Under the equity method, the initial investment is recorded at cost and reported on the balance sheet as a noncurrent asset. Because the acquisition in this case is fully funded by cash, there will be no change to total assets for Hope.

**For Further Reference:**

Study Session 5, LOS 16.a  
SchweserNotes: Book 2, p.1  
CFA Program Curriculum: Vol.2 p.10

**Question #14 of 60**

B) \$37.4 million.

**Explanation**

Hope is acquiring a 20% stake in Levitt for \$185 million. The pro-rata book value of Levitt's net assets is \$119.20 million ( $= 0.2 \times [\$824 \text{ million} - \$220 \text{ million} - \$8 \text{ million}]$ ). The amount of excess purchase price that should be allocated to PP&E is \$28.4 million ( $= 0.2 \times [\$250 \text{ million} - \$108 \text{ million}]$ ). Goodwill is then computed as:

Purchase price:	\$185.0 million
Less: pro-rata book value of net assets:	<u>\$119.2 million</u>
Excess of purchase price:	\$ 65.8 million
Less: excess allocated to PP&E:	<u>\$ 28.4 million</u>
Goodwill:	\$ 37.4 million

**For Further Reference:**

Study Session 5, LOS 16.a

SchweserNotes: Book 2, p.1

CFA Program Curriculum: Vol.2 p.10

**Question #15 of 60**

A) \$16.6 million.

**Explanation**

Hope's proportionate share of Levitt's net income is \$21.6 million ( $= 0.2 \times \$108 \text{ million}$ ). Levitt's contribution to Hope's EBT is then computed as:

Hope's proportionate share of Levitt's net income:	\$21.6 million
Less: additional depreciation expenses:	<u>\$ 5.0 million</u>
Equity income:	\$16.6 million

**For Further Reference:**

Study Session 5, LOS 16.a

SchweserNotes: Book 2, p.1

CFA Program Curriculum: Vol.2 p.10

**Question #16 of 60**

B) higher.

**Explanation**

No calculations are required to solve this problem. The increase/decrease to Hope's investment balance is equal to the investment balance at the beginning of year plus equity income less dividends paid. The equity income is positive because Levitt had positive net income, and there is no additional depreciation expense to subtract. Additionally, Levitt is not expected to make any dividend payments for 2011. Based on this, Hope's investment balance will increase.

**For Further Reference:**

Study Session 5, LOS 16.a

SchweserNotes: Book 2, p.1

CFA Program Curriculum: Vol.2 p.10

**Question #17 of 60**

C) No, he is incorrect regarding the effect on net income and ROA.

**Explanation**

Both the acquisition method and equity method will report the same net income. The acquisition method (under either partial or full goodwill) will report higher assets than the equity method and hence ROA would be lower under the acquisition method compared to under the equity method.

**For Further Reference:**

Study Session 5, LOS 16.c

SchweserNotes: Book 2, p.24

CFA Program Curriculum: Vol.2 p.35

**Question #18 of 60**

A) the equity method.

**Explanation**

When the investment constitutes 20% to 50% of the associate, and the investor has significant influence on the associate, IFRS prescribes the equity method for accounting for the investment.

**For Further Reference:**

Study Session 5, LOS 16.b

SchweserNotes: Book 2, p.1

CFA Program Curriculum: Vol.2 p.10

**Question #19 of 60**

C) Fashion management's incentives and diversification.

**Explanation**

Management incentives are a key factor in light of Mr. Silver's desire to retire in three years and his interest in Flavoring management's capabilities to help guide the combined firm.

Diversification is another key motivation because Flavoring's products are consumer based but serve a different market than Fashion's focus on consumer accessories. Because the companies have different product lines, synergies in the form of cost savings or revenue enhancement are unlikely to occur. In addition, the companies are in very different industries, making increased market power in either industry unlikely to occur as a result of the merger.

**For Further Reference:**

Study Session 8, LOS 26.b, d

SchweserNotes: Book 2, p.276, 280

CFA Program Curriculum: Vol.3 p.256, 261

**Question #20 of 60**

C) opportunities to utilize Fashion's financial resources to expand the combined company's product line into the higher volume moderately priced market segment.

**Explanation**

Opportunities to expand its products into different segments of the market for spices are not indicated in the vignette. Flavoring's management appears more interested in geographic expansion of its existing product line.

**For Further Reference:**

Study Session 8, LOS 26.b

SchweserNotes: Book 2, p.276

CFA Program Curriculum: Vol.3 p.256

**Question #21 of 60**

C) is \$20 or lower and Fashion's post merger P/E remains at the current level.

**Explanation**

The bootstrap effect will only occur when Fashion's P/E ratio is higher than Flavoring's and Fashion's P/E post merger does not decline. At the current market price of \$30.50, Fashion's P/E is 19.1, based on earnings per share of \$1.60 (\$80 million earnings / 50 million shares). At its current market price of \$20 and earnings per share of \$1.10 (\$22 million earnings / 20 million shares), Flavoring's stock's P/E is 18.2x. Therefore, the combined earnings per share after the merger would be higher if Fashion issued stock at the current price and bought Flavoring at \$20 or less per share.

**For Further Reference:**

Study Session 8, LOS 26.c

SchweserNotes: Book 2, p.278

CFA Program Curriculum: Vol.3 p.258

**Question #22 of 60**

C) \$22.30.

**Explanation**

The following statistics show calculations of estimated takeover value using equal weighting.

<i>Estimated Takeover Value</i>	<i>Flavoring</i>	<i>Mean Multiple</i>	<i>Price/Share</i>	<i>Equal Weight</i>	<i>Est. Value</i>
Sales per share	\$5.25	4.13	\$21.68	0.25	\$5.42
Book value per share	\$3.60	5.95	\$21.42	0.25	\$5.36
Earnings per share	\$1.10	19.78	\$21.76	0.25	\$5.44
Cash flow per share	\$2.10	11.58	\$24.32	0.25	\$6.08
<b>Total estimated value</b>					<b>\$22.30</b>

**For Further Reference:**

Study Session 8, LOS 26.j

SchweserNotes: Book 2, p.294

CFA Program Curriculum: Vol.3 p.283

**Question #23 of 60**

C) 18.10%.

**Explanation**

The takeover premium can be based on various statistics (mean, median, mode) of takeover premiums observed for comparable companies. In this case, the takeover premium is based on equally weighting the takeover premium for the four recently acquired companies.

	<i>Jones Foods</i>	<i>Dale Inc.</i>	<i>Hill Brands</i>	<i>Lane Co.</i>	<i>Mean</i>
Preacquisition price (A)	\$20	\$26	\$35	\$40	-
Acquisition price (B)	\$24	\$32	\$40	\$46	-
Takeover premium = $(B - A) / A$	20.0%	23.1%	14.3%	15.0%	<b>18.1%</b>

**For Further Reference:**

Study Session 8, LOS 26.j

SchweserNotes: Book 2, p.294

CFA Program Curriculum: Vol.3 p.283

**Question #24 of 60**

A) The fair acquisition price developed for Flavoring reflects a market based valuation approach, an advantage compared to discounted cash flow valuations, which are based on assumptions that do not incorporate market valuations.

**Explanation**

This is a key reason to use the comparable value method, particularly when contrasted with the use of discounted cash flow valuations. Acquisition prices are not necessarily approximations of

intrinsic values. A price developed based on comparable transactions does not always indicate the potential value of the acquisition to the purchaser.

**For Further Reference:**

Study Session 8, LOS 26.h

SchweserNotes: Book 2, p.301

CFA Program Curriculum: Vol.3 p.277

### Question #25 of 60

A) 7.46%

**Explanation**

Begin by calculating the capital structure of each plan and then multiply the percentage of debt and equity by their component costs and add the results to find the weighted average cost of capital (WACC). The plan with the lowest WACC maximizes the firm's stock price and thus reflects the optimal capital structure. In this case, Plan C meets all the criteria for optimizing X-Sport's capital structure. Plan C's debt-to-equity ratio is 1.22. Thus, there are 1.22 units of debt for every one unit of equity for a total of 2.22 units of capital. Therefore, the percentage of debt is  $1.22 / 2.22 = 55\%$ , leaving 45% equity. Thus, the WACC for Plan C is:  $(0.55 \times 4.4\%) + (0.45 \times 11.2\%) = 7.46\%$ .

Repeating these calculations for Plans A, B, and D, we find that the WACCs are 10.75%, 8.76%, and 7.75%, respectively.

**For Further Reference:**

Study Session 7, LOS 22.b

SchweserNotes: Book 2, p.207

CFA Program Curriculum: Vol.3 p.107

### Question #26 of 60

B) Kelley is only correct with respect to the net agency cost of equity.

**Explanation**

Kelley's report is incorrect regarding the static trade-off theory of capital structure, which states that a company should lever up to the point at which the additional increase in the costs of financial distress exceeds the additional increase in the tax shield from interest rate payments. Once this point is reached, adding more leverage to the company will decrease its value. Kelley's report is correct regarding the net agency costs of equity. Agency costs include equity holders' cost to monitor the firm's executives, management's bonding costs to assure owners that their best interests are guiding the company's actions, and residual losses that result even when sufficient monitoring and bonding exists. Adding additional debt reduces the agency costs to equity holders because less of their capital is at risk. The leverage effectively shifts some agency costs to bondholders. Additionally, managers have less cash to squander when higher leverage is employed because higher interest costs will restrict discretionary free cash flow.

**For Further Reference:**

Study Session 7, LOS 22.a

SchweserNotes: Book 2, p.199

CFA Program Curriculum: Vol.3 p.94

### Question #27 of 60

B) Increased liquidity risk for Plan A bond purchasers.



**Explanation**

The most likely difference in the cost of debt financing between the current level of 5.0% and the 8.5% for Plan A is that there is a greater probability of bankruptcy. Using the debt-to-equity ratio, we observe that Plan A calls for  $2.33 / (2.33 + 1) = 70\%$  debt financing, which is a very large proportion of the capital structure. The chances of bankruptcy are much greater with this heavy reliance on debt financing.

**For Further Reference:**

Study Session 7, LOS 22.a

SchweserNotes: Book 2, p.199

CFA Program Curriculum: Vol.3 p.94

**Question #28 of 60**

C) Only Statement 3 is correct.

**Explanation**

Miller and Modigliani Proposition II states that the cost of equity is a linear function of a company's debt/equity ratio. Pecking-order theory prefers internally generated equity (retained earnings) over new debt and new debt over new equity. Static trade-off theory states that the optimal level of debt is achieved when the extra cost of financial distress equals the tax benefit of debt.

**For Further Reference:**

Study Session 7, LOS 22.a

SchweserNotes: Book 2, p.199

CFA Program Curriculum: Vol.3 p.94

**Question #29 of 60**

A) The GearTech plan is an example of a spin-off transaction, while the Euro-Sport plan is an example of a carve-out transaction.

**Explanation**

Spin-off transactions involve creating a new entity out of a company's business line or one of its subsidiaries and then granting shares in the new entity to the existing shareholders of the parent company. The shareholders are then free to sell their shares in the spin-off company in the marketplace. Spin-offs are generally viewed as a favorable sign in the market because they often result in greater efficiency for the spin-off company and the parent company. In a carve-out transaction, a new entity is created in a similar manner to the spin-off transaction. The main difference is that a minority of shares is sold to the public while the majority portion of the new shares are held by the parent company (they are not distributed to existing shareholders).

**For Further Reference:**

Study Session 8, LOS 26.n

SchweserNotes: Book 2, p.307

CFA Program Curriculum: Vol.3 p.294

**Question #30 of 60**

C) the value impact.

**Explanation**

X-Sport's board of directors suffers from a lack of independence from management. The most pressing issue is that the CEO of the company, Richard Haywood, is also the chairman of the board. Judging by his ability to convince the board of his plan to spin off GearTech, Haywood

exerts an excessive degree of influence over the board. This lack of independence could negatively impact the value of X-Sport common stock because investors will demand a higher risk premium for holding the stock because there is significant risk that management will not act in the shareholders' best interest. Specifically, there is a great risk (as evidenced by their quick decision to spin off GearTech) that management will enter into future transactions (such as mergers, acquisitions, and divestitures) and assume business risks that are in management's interest but not in the shareholders' best interest. This is known as strategic policy risk, not liability risk. Note that there are two former executives of GearTech on the board who may benefit from spinning off the company. It is possible that the poor corporate governance at X-Sport may call into question the reliability of the financial disclosures of GearTech, but this risk is known as accounting risk, not asset risk.

**For Further Reference:**

Study Session 8, LOS 25.f, h

SchweserNotes: Book 2, p.262, 264

CFA Program Curriculum: Vol.3 p.219, 236

### Question #31 of 60

- B) Firm A should be valued using a dividend discount model. Firm B should be valued using a residual income model.

**Explanation**

Firm A should be valued using the one-period dividend discount model. The firm has a history of dividend payments, the dividend policy is clear and related to the earnings of the firm, and (as stated in the presentation) the perspective is that of a minority shareholder. A free cash flow model is more appropriate when examining the perspective of a controlling shareholder.

Firm B should be valued using a residual income model. The residual income approach is most appropriate for firms that do not have dividend histories, have transparent financial reporting, and have negative free cash flow for the foreseeable future (usually due to capital demands).

**For Further Reference:**

Study Session 10, LOS 30.a

SchweserNotes: Book 3, p.62

CFA Program Curriculum: Vol.4 p.199

### Question #32 of 60

- B) Firm C should be valued using an H dividend discount model. Firm D should be valued using a 2-stage dividend discount model.

**Explanation**

Firm C should be valued using an H dividend discount model. A firm that has little competition now, but has competition that is expected to increase, is a candidate for the H-model. Growth can be expected to decline as competitors enter the market. Growth then stabilizes as the industry matures.

Firm D should be valued using a two-stage dividend discount model. A firm that is expected to have a high rate of growth until patents expire, for example, should be modeled by the two-stage model, with one rate of growth before the patent expires and another rate thereafter.

**For Further Reference:**

Study Session 10, LOS 30.i

SchweserNotes: Book 3, p.75

CFA Program Curriculum: Vol.4 p.224

### Question #33 of 60

C) \$67.13.

#### Explanation

The firm should be valued using an H dividend discount model given that an initially high rate of growth declines linearly over a specified period. The formula is:

$$V_0 = \frac{[D_0 \times (1 + g_L)] + [D_0 \times H(g_S - g_L)]}{r - g_L}$$

where:

$H = \left(\frac{t}{2}\right)$  = half-life (in years) of high-growth period

where:

t = length of high-growth period

$g_S$  = short-term growth rate

$g_L$  = long-term growth rate

r = required return

Using the figures for Maple:

$$V_0 = \frac{[\$3.00 \times (1 + 0.07)] + \left[\$3.00 \times \left(\frac{8}{2}\right) \times (0.25 - 0.07)\right]}{0.15 - 0.07} = \$67.13$$

#### For Further Reference:

Study Session 10, LOS 30.I

SchweserNotes: Book 3, p.80

CFA Program Curriculum: Vol.4 p.224

### Question #34 of 60

B) \$73.73.

#### Explanation

If you grow the \$5.00 dividend out for four years at 18%, the first four dividends are:

$D_1$	$D_2$	$D_3$	$D_4$
\$5.90	\$6.96	\$8.22	\$9.69

$D_5$  is then  $D_4 \times 1.04 = \$10.0816$ . Discounting the first four dividends at 15%, you obtain:

PV( $D_1$ )	PV( $D_2$ )	PV( $D_3$ )	PV( $D_4$ )
\$5.13	\$5.26	\$5.40	\$5.54

Discounting the dividends from the end of Year 4 to perpetuity using the dividend discount model, you obtain:

$10.0816 / (0.15 - 0.04) = \$91.65$ . Discounting this figure back to the present, you have  $91.65 / (1.15^4) = \$52.40$ .

Summing up the present values of all the above ( $5.13 + 5.26 + 5.40 + 5.54 + 52.40$ ), you have a total price of \$73.73.

Note that your answer may differ slightly from the answer above due to rounding.

**For Further Reference:**

Study Session 10, LOS 30.I

SchweserNotes: Book 3, p.80

CFA Program Curriculum: Vol.4 p.224

**Question #35 of 60**

A) 56%.

**Explanation**

The stock price represents the present value of the future dividends (on a no-growth basis) and the present value of the growth opportunities (PVGO):

$$\text{value} = \frac{E_1}{r} + \text{PVGO}$$

Thus the value of a firm's equity has two components: the value of its assets in place ( $E_1/r$ ) and the present value of its future investment opportunities (PVGO).

$$90 = \frac{6}{0.15} + \text{PVGO}$$

$$\text{PVGO} = 50$$

The P/E for the firm is  $90 / 6 = 15.00$ .

The P/E of the PVGO is  $50 / 6 = 8.33$ .

The percentage of Wood Athletic Supplies leading P/E related to PVGO is then  $8.33 / 15.00 = 56\%$ .

**For Further Reference:**

Study Session 10, LOS 30.e

SchweserNotes: Book 3, p.70

CFA Program Curriculum: Vol.4 p.218

**Question #36 of 60**

B) No, only Statement 2 is correct.

**Explanation**

Statement 1 is incorrect. All of Pacious's description of the initial growth phase is correct except that, in this stage, the free cash flows to equity are actually negative. This is due to the heavy capital investment. Statement 2 is correct. The terminal value in the three-stage dividend growth model can be estimated using either approach.

**For Further Reference:**

Study Session 10, LOS 30.j, k

SchweserNotes: Book 3, p.78, 79

CFA Program Curriculum: Vol.4 p.223, 226

**Question #37 of 60**

B) Expense R&D instead of capitalizing it.

**Explanation**

R&D should be capitalized and amortized rather than expensing when incurred. The other adjustments are appropriate.

**For Further Reference:**

Study Session 11, LOS 33.a

SchweserNotes: Book 3 p.200

CFA Program Curriculum: Vol.4 p.460

**Question #38 of 60**

**C)** Positive \$1.8 million.

**Explanation**

EVA = NOPAT - \$WACC

NOPAT = EBIT  $\times$  (1 - t) = 28.1  $\times$  (1 - 0.45) = 15.455

\$WACC = WACC  $\times$  total capital = 12.5%  $\times$  109.2 = \$13.65m

For EVA computation, we need beginning 20X6 total capital (i.e., 20X5 ending).

EVA = 15.455 - 13.65 = \$1.805m

**For Further Reference:**

Study Session 11, LOS 33.a

SchweserNotes: Book 3 p.200

CFA Program Curriculum: Vol.4 p.460

**Question #39 of 60**

**A)** -\$0.3 million.

**Explanation**

Residual income = accounting profit (after tax and interest) minus a charge for equity capital employed.

Net income for 20X6 12.5

Beg. Stockholders' equity 85.2<sup>1</sup>

(-) Cost of equity @ 15% (12.78)

(=) Residual income (0.28)

<sup>1</sup> Beginning stockholders' equity = 20X5 ending stockholders' equity = common stock + additional paid-in capital + retained income = 20 + 10 + 55.2 = 85.2.

**For Further Reference:**

Study Session 11, LOS 33.a

SchweserNotes: Book 3 p.200

CFA Program Curriculum: Vol.4 p.460

**Question #40 of 60**

**C)** \$50.5 million

**Explanation**

Market Value Added = market value of (total) capital – book value of capital  
= (145 + 16) – (94.5 + 16)  
= \$50.5m

**For Further Reference:**

Study Session 11, LOS 33.a

SchweserNotes: Book 3 p.200

CFA Program Curriculum: Vol.4 p.460

**Question #41 of 60**

A) 3 million.

**Explanation**

$$\text{WCInv} = 32.4 - 27.2 = 5.2$$

$$\text{FCInv} = (\text{ending FA} - \text{beginning FA} + \text{depreciation}) = 78.1 - 82.0 + 12 = 8.1$$

$$\text{Net borrowing} = 16 - 24 = -8$$

$$\begin{aligned}\text{FCFE} &= \text{NI} + \text{depreciation} - \text{WCInv} - \text{FCInv} + \text{net borrowing} \\ &= 12.5 + 12 - 5.2 - 8.1 - 8 = 3.2\end{aligned}$$

**For Further Reference:**

Study Session 11, LOS 31.d

SchweserNotes: Book 3 p.118

CFA Program Curriculum: Vol.4 p.273

**Question #42 of 60**

A) \$144.5 million.

**Explanation**

Value of equity = book value of equity + PV of residual income

Value as of 31 December 20X6:

$$= 94.5 + [5 \div (0.15 - 0.05)]$$

$$= \$144.5\text{m}$$

**For Further Reference:**

Study Session 11, LOS 33.a

SchweserNotes: Book 3 p.200

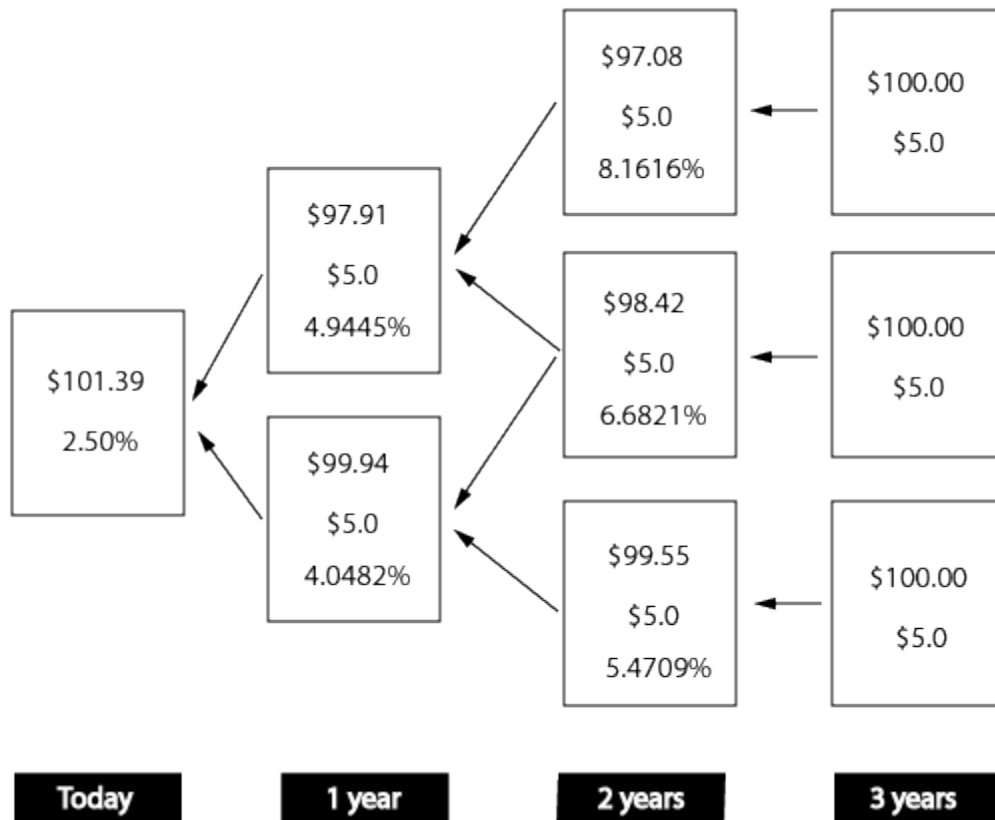
CFA Program Curriculum: Vol.4 p.460

**Question #43 of 60**

C) \$101.39.

**Explanation**

The completed binomial tree is as follows:



$$V_{2,u} = \frac{105}{(1.081616)} = \$97.08$$

$$V_{2,uL} = \frac{105}{(1.066821)} = \$98.42$$

$$V_{2,L} = \frac{105}{(1.054709)} = \$99.55$$

$$V_{1,u} = \left[ \frac{[(97.08 + 98.42) / 2] + 5}{1.049445} \right] = \$97.91$$

$$V_{1,L} = \left[ \frac{[(98.42 + 99.55) / 2] + 5}{1.040482} \right] = \$99.94$$

$$V_0 = \left[ \frac{[(97.91 + 99.94) / 2] + 5}{1.025} \right] = \$101.39$$

#### For Further Reference:

Study Session 12, LOS 36.d

SchweserNotes: Book 4, p.37

CFA Program Curriculum: Vol.5 p.81

#### Question #44 of 60

C) \$101.02

**Explanation**

The value of bond A under interest rate scenario of path X is determined as:

$$\text{Value} = \frac{5}{(1.025)} + \frac{5}{(1.025)(1.049445)} + \frac{105}{(1.025)(1.049445)(1.066821)} = \$101.02$$

**For Further Reference:**

Study Session 12, LOS 36.g

SchweserNotes: Book 4, p.42

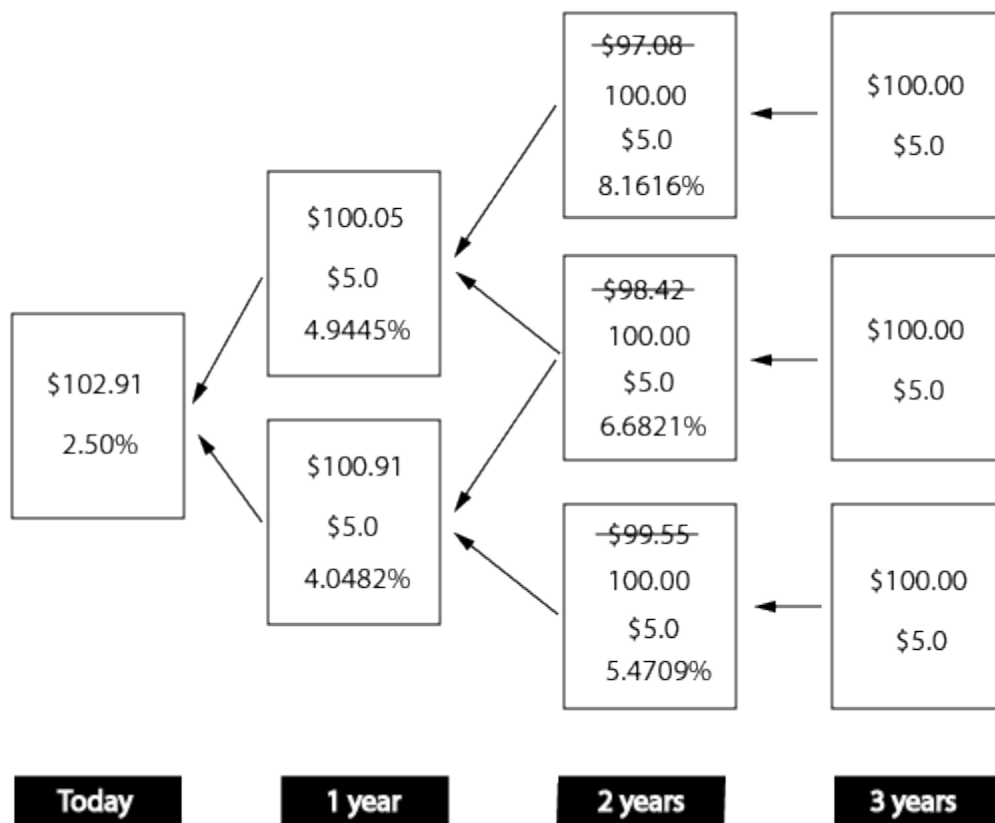
CFA Program Curriculum: Vol.5 p.91

**Question #45 of 60**

C) \$102.91.

**Explanation**

An extendible bond is valued identically to a putable bond. Bond B would be identical to a 3-year putable bond where the underlying option is a European put option exercisable in 2 years at par. The completed binomial tree is given below.



$$V_{2,uu} = \frac{105}{(1.081616)} = \$97.08. \text{ Investor will not extend the bond.}$$

Value = \$100

$$V_{2,ul} = \frac{105}{(1.066821)} = \$98.42. \text{ Investor will not extend the bond.}$$

Value = \$100



$$V_{2,U} = \frac{105}{(1.054709)} = \$99.55. \text{ Investor will not extend the bond.}$$

Value = \$100

$$V_{1,U} = \left[ \frac{[(100.00 + 100.00) / 2] + 5}{1.049445} \right] = \$100.05$$

$$V_{1,L} = \left[ \frac{[(100.00 + 100.00) / 2] + 5}{1.040482} \right] = \$100.91$$

$$V_0 = \left[ \frac{[(100.05 + 100.91) / 2] + 5}{1.025} \right] = \$102.91$$

**For Further Reference:**

Study Session 13, LOS 37.f

SchweserNotes: Book 4, p.55

CFA Program Curriculum: Vol.5 p.125

### Question #46 of 60

A) Underestimated                      Too low

**Explanation**

Bond B is identical to a 3-year puttable bond with the put option exercisable in year 2. If the volatility estimate used to generate the interest rate tree is lower than the actual volatility, the value of the put option and, thus, the value of the puttable bond would be underestimated. A lower volatility estimate would underestimate the OAS computed for the puttable bond. When the assumed level of interest rate volatility is underestimated, the computed value of the bond using backward induction methodology will be too low; therefore, the OAS needed to force the model price to be equal to the market price will be lower as well.

**For Further Reference:**

Study Session 13, LOS 37.d, h

SchweserNotes: Book 4, p.58, 61

CFA Program Curriculum: Vol.5 p.120, 135

### Question #47 of 60

B) overpriced.

**Explanation**

Bond B and Geneva Inc. bonds are of the same credit quality, but Geneva Inc.'s bond offers a lower OAS and, hence, offers lower compensation for taking the same credit risk. Hence, the Geneva Inc. bond is overpriced. The difference in option feature is not relevant, as OAS is computed after adjusting for option risk.

**For Further Reference:**

Study Session 13, LOS 37.g

SchweserNotes: Book 4, p.59

CFA Program Curriculum: Vol.5 p.134

### Question #48 of 60

B) incorrect about effective duration only.

**Explanation**

Both callable and putable bonds have an effective duration that is less than or equal to the effective duration of an option-free bond. When the underlying call option is deep out of money, the effective duration of a callable bond and that of an option-free bond will be same. As a result, the statement about effective duration is incorrect. Thomas's statement about one-sided down duration is correct. Due to the limited upside for a callable bond, the change in price of a callable bond for a decrease in interest rates is lower than the change in price for an option-free bond.

**For Further Reference:**

Study Session 13, LOS 37.j, k

SchweserNotes: Book 4, p.63, 64

CFA Program Curriculum: Vol.5 p.143, 144

**Question #49 of 60**

A) 1,064.

**Explanation**

The futures price can be calculated by growing the spot price at the difference between the continuously compounded risk-free rate and the dividend yield as a continuously compounded rate. The continuously compounded risk-free rate is  $\ln(1.040811) = 4\%$ , so the futures price for a 240-day future is:

**For Further Reference:**

Study Session 14, LOS 40.a

SchweserNotes: Book 4, p.124

CFA Program Curriculum: Vol.5 p.270

**Question #50 of 60**

C) The futures price will move toward the spot price as expiration nears.

**Explanation**

The futures price for a given contract maturity must converge to the spot price as the contract moves toward expiration. Otherwise, arbitrage opportunities would exist.

**For Further Reference:**

Study Session 14, LOS 40.a

SchweserNotes: Book 4, p.124

CFA Program Curriculum: Vol.5 p.270

**Question #51 of 60**

B) inappropriate since the futures contract is overpriced.

**Explanation**

First, calculate the continuously compounded risk-free rate as  $\ln(1.040811) = 4\%$  and then calculate the theoretically correct futures price as follows:

$$FP = S_0 e^{(r-d)t} = 1,015 e^{(4.0-2.0)(180/365)} = 1,025$$

Then, compare the theoretical price to the observed market price:  $1,035 - 1,025 = 10$ . The futures contract is overpriced. To take advantage of the arbitrage opportunity, the investor should sell the (overpriced) futures contract and buy the underlying asset (the equity index) using borrowed funds. Norris has suggested the opposite.

**For Further Reference:**

Study Session 14, LOS 40.a

SchweserNotes: Book 4, p.124

CFA Program Curriculum: Vol.5 p.270

**Question #52 of 60**

B) is long futures contracts on the equity index.

**Explanation**

An increase in the growth rate in dividends for stocks would increase the spot price of the equity index. As the spot price increases, the futures price for a given maturity also increases (holding interest rates constant). Higher dividends during the short period of time until maturity of the futures contract would have only a minimal negative impact on the futures price.

**For Further Reference:**

Study Session 14, LOS 40.a

SchweserNotes: Book 4, p.124

CFA Program Curriculum: Vol.5 p.270

**Question #53 of 60**

A) lower.

**Explanation**

Given the decrease in the index level, the value of the short party's position in a forward contract should be positive. Because the futures contracts are marked to market, the value to the short (or long) party only reflects the change in futures price since the last mark to market. Hence, the value of the futures contract should be lower than the value of the forward contract.

**For Further Reference:**

Study Session 14, LOS 40.a

SchweserNotes: Book 4, p.124

CFA Program Curriculum: Vol.5 p.270

**Question #54 of 60**

A) -€19,633

**Explanation**

Based on the exchange rate at initiation, the notional principals were €1,000,000 and SF 1,120,000. Sixty days after initiation, the remaining settlement days are 30, 120, 210, and 300 days into the future. The value of the Swiss franc position (per 1 SF notional) is calculated as:  $(0.0096 / 4) \times (0.9996 + 0.9978 + 0.9961 + 0.9932) + 1 \times 0.9932 = \text{SF } 1.0028$ . For the notional principal of SF 1,120,000, the value is SF 1,123,136. Based on the current exchange rate, this translates into  $(1,123,136 / 1.10)$  euros or €1,021,033.

The euro position value is given as €1.0014 per €1 notional. For €1 million notional, this translates into a value of €1,001,400. Because Witkowski's client paid the euro notional at initiation, they will receive the euros and have a value of  $\text{€1,001,400} - \text{€1,021,033} = -\text{€19,633}$ .

**For Further Reference:**

Study Session 14, LOS 40.d

SchweserNotes: Book 4, p.138

CFA Program Curriculum: Vol.5 p.305

### Question #55 of 60

A) 0.63%.

#### Explanation

$$E(R_A) = \sum w_{P,j} E(R_{P,j}) - \sum w_{B,j} E(R_{B,j}) = 11.07\% - 10.44\% = 0.63\%$$

#### **For Further Reference:**

Study Session 17, LOS 51.a

SchweserNotes: Book 5, p.197

CFA Program Curriculum: Vol.6 p.444

### Question #56 of 60

C) both statements are correct.

#### Explanation

Both statements are correct. Information ratio, unlike the Sharpe ratio, is affected by an allocation to cash or by the use of leverage. For an unconstrained optimization, a change in aggressiveness in active weights changes both the active return and active risk proportionally, leaving the information ratio unchanged.

#### **For Further Reference:**

Study Session 17, LOS 51.b

SchweserNotes: Book 5, p.200

CFA Program Curriculum: Vol.6 p.449

### Question #57 of 60

B) 12.

#### Explanation

$$IR(Dena) = IR(Orient)$$

$$(0.2) \times (0.99) \times \sqrt{12} = (0.25) \times (0.80) \times \sqrt{X}$$
$$\sqrt{X} = 3.429; X = 11.76$$

#### **For Further Reference:**

Study Session 17, LOS 51.c

SchweserNotes: Book 5, p.203

CFA Program Curriculum: Vol.6 p.459

### Question #58 of 60

B) fund B.

#### Explanation

$$IC = 2(\% \text{ correct}) - 1$$

$$IC_A = 2(0.52) - 1 = 0.04$$

$$IC_B = 2(0.58) - 1 = 0.16$$

$$IC_C = 2(0.59) - 1 = 0.18$$

$$IR = IC\sqrt{BR}$$

$$IR_A = 0.04\sqrt{12 \times 2} = 0.20$$

$$IR_B = 0.16\sqrt{4 \times 3} = 0.55$$

$$IR_C = 0.18\sqrt{2 \times 2} = 0.36$$

Any investor should always choose the fund with the highest information ratio. The amount of active risk can then be adjusted by changing the allocation of portfolio to the benchmark versus the active fund.

**For Further Reference:**

Study Session 17, LOS 51.c, d, e

SchweserNotes: Book 5, p.203, 205

CFA Program Curriculum: Vol.6 p.459, 452, 471

### Question #59 of 60

A) both statements are incorrect.

**Explanation**

Both statements are incorrect. The portfolio with the highest information ratio will have the highest Sharpe ratio. Recall that the Sharpe ratio of the portfolio is computed as  $SR_P^2 = SR_B^2 + IR_P^2$ . Given that benchmark Sharpe ratio ( $SR_B$ ) is the same for all similar active portfolios, the active portfolio with the highest information ratio will also be the portfolio with the highest Sharpe ratio. The optimal active risk for a constrained portfolio = TC × optimal active risk for an unconstrained portfolio. Given that  $TC < 1$  for constrained portfolio, the optimal active risk for a constrained portfolio will be lower than the optimal active risk for an unconstrained portfolio.

**For Further Reference:**

Study Session 17, LOS 51.c, d

SchweserNotes: Book 5, p.203, 205

CFA Program Curriculum: Vol.6 p.459, 452

### Question #60 of 60

C) active risks.

**Explanation**

Active risk is comprised of the uncertainty from benchmark tracking risk and uncertainty about the true information coefficient ( $\sigma_{IC}$ ). Hence, an increase in uncertainty about the information coefficient will increase active risk.

The basic fundamental law relates expected active return to the information coefficient as follows:

$$E(R_A) = \frac{IC}{\sigma_{IC}} \sqrt{BR} \sigma_A$$

Hence, an increase in the uncertainty of the information coefficient leads to a decrease in the expected active return and a decrease in the information ratio.

**For Further Reference:**

Study Session 17, LOS 51.f

SchweserNotes: Book 5, p.208

CFA Program Curriculum: Vol.6 p.484