Vera and Kenny Stanmore (ages 38 and 39), together with their children, Aiden and Marsha (ages 10 and 5, respectively), are planning their next European vacation. The family plan to rent a camper van and travel to Gorges du Verdon in the South of France, leaving behind Newcastle, England, for a few weeks over the school vacations.

For the last three years, Vera has been running her own small business as a garden designer, and Kenny is a senior teacher at a private school in Newcastle. Kenny is a member of his employer-defined contribution pension plan, which also provides four times his gross salary of £68,250 per annum as a tax-free life insurance benefit in the event of death. Vera has average gross earnings of £25,000 per annum and has not made any pension arrangements to date, but she plans to retire at age 60.

One of Kenny's friends, James Perez, has recently qualified as a financial advisor. He recommends that Kenny and Vera review their life insurance needs, as they haven't received any financial advice since the birth of their son, Aiden, 10 years ago. Kenny and Vera agree to meet with Perez, who completes a full client needs analysis questionnaire (CNQ).

Perez notes that the couple has joint net annual expenses of £42,500, savings of £58,000, a joint mortgage of £160,000, and Kenny has a car loan of £6,000. In the event of long-term illness or disability, the state would provide Social Security benefits of £10,400 net to each of them. The couple each have a whole life insurance policy with a £250,000 death benefit, written in trust for the survivor, which they arranged after Aiden was born.

Perez discusses the impact of early death of either spouse, while their children are dependent upon them. Vera and Kenny agree that the children would remain dependent upon them until they reach age 18, and incur living costs of £5,000 per annum per child while they are dependent. They estimate that funeral costs would be £8,000, and that the couple would want to repay all debt in the event of either having an early death. The couple agrees that an emergency fund of £10,000 is appropriate for their needs, and that in the event of early death, the survivor would need £25,000 per annum for life.

Perez agrees to prepare a financial planning report for the couple and notes the market data, as shown in Exhibit 1.

Exhibit 1: Market Data

Human Capital Assumptions	Vera	Kenny	Living Expenses
Assumed nominal salary growth rate	2%	3%	3%

Discount rate (nominal risk-free rate)	4%	4%	4%
Life expectancy	Age 90	Age 90	—
Tax rate	25%	40%	—

Question #1 - 4 of 10

Question ID: 1527481

Based upon the information just listed, estimate the overall life insurance shortfall (to the nearest £1,000) in the event of Kenny's early death, assuming benefits are paid immediately, using the needs analysis method.

A) £472,000.

B) £242,000.

C) £391,000.

Explanation

The needs analysis method estimates the following components to calculate a life insurance shortfall:

- Cash needs on death (e.g., funeral costs, repay loans/mortgage, emergency fund)
- Capital needs (e.g., PV of expenses for survivors – PV of survivor net salary)
- Cash needs + capital needs = total financial needs
- Less: life insurance and savings available
- Total financial needs – life insurance/savings available = life insurance shortfall

When calculating the present value of expenses for the survivor, the time horizon used is their life expectancy. When calculating the present value of earned income, the time horizon used is to the survivor's retirement. In this question, the children are dependent until age 18.

The present value calculations require using real growth rates, which are different for income and expenses (for Vera) in this question. The calculation of the real growth rates is shown here.

Real growth in income (for Vera):

1 + nominal growth = (1 + real growth) × (1 + inflation)

1.04 = (1 + real growth) × (1.02)

Real growth = (1.04 / 1.02) – 1

= **1.96%**

Real growth in expenses:

1 + nominal growth = (1 + real growth) × (1 + inflation)

1.04 = (1 + real growth) × (1.03)

Real growth = (1.04 / 1.03) – 1

= **0.971%**.

Life Insurance Requirement: Kenny's Death	GBP	GBP Total
Cash needs		
Funeral and burial costs plus taxes	8,000	
Emergency fund	10,000	
Debts to be repaid	6,000	
Mortgage	160,000	
Total cash needs		**184,000**
Capital needs		
PV of surviving spouse living expenses **for Vera**		
N = life expectancy survivor (Vera to age 90)	52 years	
FV = future value	0	
PMT = survivor's living expenses (for Vera)	25,000	

I/Y = real return	0.971	
CPT PV (BGN mode)	**1,026,801**	1,026,801
PV of expenses **for Aiden to age 18**		
N = 8, PMT = 5,000, I/Y = 0.971, FV = 0		
CPT PV(BGN mode)	**38,679**	38,679
PV of expenses **for Marsha to age 18**		
N = 13, PMT = 5,000, I/Y = 0.971, FV = 0		
CPT PV(BGN mode)	**61,379**	61,379
Less: PV of survivor's income **for Vera for life**		
N = to retirement at age 60 (Vera)	22	
FV = future value	0	
PMT = survivor (Vera) net income (taxed at 25%)	18,750	
I/Y = real return	1.96	
CPT PV (BGN mode)	**338,999**	–338,999
Total capital needs		**787,860**
Cash needs (calculated previously)		184,000
Total financial needs (cash + capital needs)		**971,860**

Existing life insurance and savings		
Death in service (4 × gross salary of 68,250)	273,000	
Individual life insurance policy (covering Kenny)	250,000	
Savings	58,000	
Total	**581,000**	**–581,000**
Life insurance shortfall on Kenny's death		**391,000**
Total financial capital – life insurance/savings		

Question #2 - 4 of 10

Question ID: 1527482

Based upon the information just listed, estimate the cash needs for Kenny in the event of Vera's early death using the needs analysis method and assuming benefits are paid immediately.

A) £178,000.

B) £184,000.

C) £174,000.

Explanation

Life Insurance Requirement: Vera's Death	GBP	GBP Total
Cash needs		
Funeral and burial costs plus taxes	8,000	
Emergency fund	10,000	
Debts to be repaid (Kenny's car loan)	6,000	
Mortgage	160,000	
Total cash needs		184,000

(Note that all debts to be repaid in event of either death)

Question #3 - 4 of 10

Question ID: 1553147

Based upon the information just listed, estimate the capital needs for Kenny in the event of Vera's early death using the needs analysis method and assuming benefits are paid immediately.

A) £429,873.

B) £229,451.

C) £329,509.

Explanation

Here are capital needs for Kenny in the event of Vera's early death:

- PV of the survivor's (Kenny's) expenses for life (to age 90, in this question)
- Plus PV of the children's expenses while they are dependent (to age 18 in this question)
- Less PV of the survivor's (Kenny's) earned income until retirement
- = Capital needs for Kenny in the event of Vera's early death

Note that the capital needs do not take any account of any existing life insurance or the cash needs calculated earlier.

Real growth rates in expenses and income must be used. The calculation of the real growth rates of Kenny's income and expenses is repeated here.

Real growth in expenses and income (for Kenny):

1 + nominal growth = (1 + real growth) × (1 + inflation)

1.04 = (1 + real growth) × (1.03)

Real growth = (1.04 / 1.03) – 1

= **0.971%**.

Life Insurance Requirement: On Vera's Death	**GBP**	**GBP Total**
Capital Needs		
PV of surviving spouse living expenses **for Kenny**		
N = life expectancy survivor (Kenny to age 90)	51 years	
FV = future value	0	
PMT = survivor's living expenses (for Kenny)	25,000	
I/Y = real return	0.971	
CPT PV (BGN mode)	**1,011,529**	1,011,529
PV of expenses **for Aiden to age 18**		
N = 8, PMT = 5,000, I/Y = 0.971, FV = 0		
CPT PV(BGN mode)	**38,679**	38,679
PV of expenses **for Marsha to age 18**		
N = 13, PMT = 5,000, I/Y = 0.971, FV = 0		
CPT PV(BGN mode)	**61,379**	61,379
Less: PV of survivor's income **for Kenny**		
N = to retirement at age 60 (Kenny's retirement)	21	
FV = future value	0	
PMT = survivor (Kenny) net income (40% tax)	40,950	
I/Y = real return	0.971	

CPT PV (BGN mode)	**782,078**	–782,078
Total capital needs (on Vera's early death)		**329,509**

Question #4 - 4 of 10

Question ID: 1527484

Based upon the information given in the case, which of the following statements is *least accurate*?

A) Vera needs liability insurance.

B) Vera and Kenny are in the career development stage of life.

C) Vera needs a higher level of disability insurance than Kenny does because she is self-employed.

Explanation

Vera and Kenny are in the career development stage of life. The couple is in their late 30s, have children, own their own home, and have established careers, which fits with the career development stage of life.

The impact on the family would be greater if Kenny was unable to work due to illness or disability, as he has the higher net salary (£40,950 vs. £18,750 for Vera). The family would suffer a greater fall in income if Kenny had to rely upon the state benefits of £10,400 in the event he was unable to work due to long-term illness or disability.

Vera runs her own self-employed garden design business; thus, she has a need for liability insurance to protect her against legal claims brought against her.

Question #5 of 10

Question ID: 1553001

Jonathan Kennedy is performing attribution analysis of a three-sector domestic equity portfolio. The table below shows data from the portfolio along with benchmark data.

Sector/Industry	Weight in Portfolio	Weight in Benchmark	Return from Portfolio	Return from Benchmark
Biotech	30%	25%	5%	3%
Utilities	40%	35%	10%	1%
Media	30%	40%	-5%	-4%
TOTAL	100%	100%	-4%	-0.5%

Using the data in the table, the total selection effect is *closest* to:

A) 4.25%.

B) 3.25%.

C) 3.75%.

Explanation

The selection effect calculation is the same in both the Brinson-Fachler and Brinson, Hood, Beebower (BHB) models. The total selection effect for the portfolio is determined by summing all of the contributions to the selection, such that $S_i = W_i \times (R_i - B_i)$. From the table, we can see that the individual sector selection effects are:

- Biotech: $S_i = W_i \times (R_i - B_i) = 25\% \times (5\% - 3\%) = 0.5\%$
- Utilities: $S_i = Wi \times (R_i - B_i) = 35\% \times (10\% - 1\%) = 3.15\%$
- Media: $S_i = W_i \times (R_i - B_i) = 40\% \times (-5\% - (-4\%)) = -0.4\%$
- TOTAL = **3.25%**

(Module 24.2, LOS 24.e)

Question #6 of 10

Question ID: 1552945

Which of the following benchmarks is the reference price used by profit-seeking managers aiming to earn short-term alpha related to the manager's view of the fair value of the security?

A) Price target.

B) Post-trade.

C) Pre-trade.

Explanation

Price target benchmarks provide an explicit value for a portfolio manager's view of fair value. If there is a difference in the price of a security and an investor's price target, there may be an opportunity to profit by buying or selling the security. Pre-trade and post-trade benchmarks do not provide a signal for profitable short-term trades. (Module 23.2, LOS 23.c)

Question #7 of 10

Question ID: 1552997

Holdings-based attribution is *most appropriate* for assessing:

A) portfolios with high turnover.

B) passive index funds.

C) holdings data based on long time intervals.

Explanation

Holdings-based attribution does not make any adjustments for portfolio changes. Hence, it is most widely applied when analyzing portfolios with low turnover, such as passive index funds. The accuracy of holdings-based attribution improves when using data with shorter time intervals. (When transactions are made during the measurement period, holdings-based attribution may not reconcile to actual portfolio return.)

(Module 24.1, LOS 24.d)

Question #8 of 10

Question ID: 1553187

Which of the following is an advantage of a direct investment rather than an indirect investment structure when investing in long-term illiquid assets?

A) Lower liability risks.

B) Lower staff costs.

C) Lower principal-agent issues.

Explanation

Direct investing will require an internal investment team as well as the need to attract and retain talented, experienced staff members. This will result in higher staff costs.

Being a direct owner brings the potential for additional liabilities that are not present when investing via an indirect investment fund.

An advantage of direct investing is that there is no need for the principal-agent relationship with external fund managers. This reduces the potential for conflicts of interest in this relationship where situations can arise, questioning whether the manager is putting his own interests before the investor.

(Module 28.4, LOS 28.d)

Question #9 of 10

Question ID: 1553200

In addition to setting the overall risk tolerance, where are additional risk parameters such as limits, requirements, and guidelines codified?

A) The risk policy manual.

B) The risk framework.

C) The IPS.

Explanation

Additional risk parameters are codified in the investment policy statement.

(Module 28.4, LOS 28.e)

Question #10 of 10

Question ID: 1553019

Which of the following is *NOT* regarded to be an essential characteristic of a valid benchmark?

A) Appropriate to the manager's investment approach and style.

B) Reflective of past investment opinion.

C) Specified in advance.

Explanation

The benchmark has seven characteristics. All of the above are included with the exception of "reflective of past investment opinion", it should be reflective of *current* investment opinion, and the manager should have *current* knowledge and expertise of the securities in the benchmark.

(Module 24.3, LOS 24.j)