



Answers

1 Shareholder return

Hathaway Co has just paid a dividend of \$0.21 per share and its share price is \$3.50 per share. One year ago its share price was \$3.60 per share.
What is the total shareholder return over the period?

A	8.9%	
B	8.6%	
C	3.1%	<i>Correct</i>
D	0.9%	

Explanation. To determine the total shareholder return, we need to consider both the dividend received and the capital gain or loss over the period.

1. **Dividend Yield:** This is the dividend per share divided by the share price at the beginning of the period.

$$\frac{\$0.21}{\$3.60} \approx 0.0583 = 5.83\%$$

2. **Capital Gain/Loss:** This is the change in the share price over the period, expressed as a percentage of the share price at the beginning of the period.

$$\frac{\$3.50 - \$3.60}{\$3.60} \approx -0.0278 = -2.78\%$$

3. **Total Shareholder Return:** This is the sum of the dividend yield and the capital gain/loss.

$$\text{Total Shareholder Return} = 5.83\% + (-2.78\%) = 3.05\% \approx 3.1\%$$

2 Asset pricing

A large, listed company is to issue 90-day commercial paper with a nominal value of \$10m. Each paper will have a nominal value of \$100,000. The annual required rate of return is 4% assuming a 365-day year. What will be the issue price of each paper?

A	\$99,023	<i>Correct</i>
B	\$99,014	
C	\$96,154	
D	\$96,000	

Explanation. To determine the issue price of a commercial paper with a nominal value of \$100,000, a 90-day maturity, and an annual required rate of return of 4%, we can use the following formula:

$$\text{Issue Price} = \frac{\text{Face Value}}{1 + \left(\frac{\text{Rate} \times \text{Days}}{\text{Year}} \right)}$$

Plugging the numbers from the task, we get:

$$\text{Issue Price} = \frac{\$100,000}{1 + \left(\frac{0.04 \times 90}{360} \right)} \approx 99,023$$

3 Loan notes

A company has in issue 6% \$100 loan notes which have a current market value of \$105. Which of the following best describes the 6% quoted on the loan notes above?

A	The annual interest paid on the nominal value of the loan note	<i>Correct</i>
B	The annual interest divided by the current market value of the loan note	
C	The total return on the loan note, taking into account capital gains as well as interest payments	
D	The annual interest paid on the market value of the loan note	

Explanation. The 6% quoted on the loan notes refers to the **coupon rate**, which is the annual interest paid on the nominal (or face) value of the loan note.

4 Professional skill

Which one of the following best describes the professional skill 'analysis'?		
A	Informing others concisely and objectively while being sensitive to cultural differences	
B	Reviewing information and considering it before reaching a decision or conclusion	<i>Correct</i>
C	Using compelling arguments to persuade others	
D	Identifying which information from multiple sources is most relevant	

Explanation. Analysis involves examining information carefully, evaluating it, and making informed decisions based on that information.

5 Exchange rate

<p>Handria is a country that has the peso for its currency and Wengry is a country that has the dollar (\$) for its currency. The current spot exchange rate is 1.5134 pesos = \$1. The one-year forward exchange rate is 1.5346 pesos = \$1. The currency market between the peso and the dollar is assumed perfect and the International Fisher Effect holds. Which of the following statements is true?</p>		
A	Wengry has a higher forecast rate of inflation than Handria	
B	Handria has a higher nominal rate of interest than Wengry	<i>Correct</i>
C	Handria has a higher real rate of interest than Wengry	
D	The forecast future spot rate of exchange will differ from the forward exchange rate	

Explanation. The depreciating currency (Handria's peso) suggests that Handria has a higher inflation and thus higher nominal interest rate. This aligns with the IFE, where higher nominal interest rates correlate with higher inflation rates and currency depreciation.

6 Budgeting

<p>Parma Co requires all divisions to prepare their own budgets and these are then approved by head office. The current managing director of Parma Co believes that it would be better if all budgets for the divisions are prepared centrally at head office, and divisional managers told that they must aim to achieve them. Which of the following is an advantage of non-participative budgeting as compared to participative budgeting?</p>		
A	It increases motivation	
B	It is less time consuming	<i>Correct</i>
C	It increases acceptance	
D	The budgets produced are more attainable	

Budgeting. Non-participative budgeting is generally less time consuming because it involves fewer people in the process. Centralized decision-making can be faster as it does not require the time-consuming process of gathering input from multiple divisions.

7 Budgeting

Which of the following describes a flexed budget?		
A	One that is set prior to the control period and not subsequently changed in response to changes in activity, costs or revenues	
B	One that is continuously updated by adding a further accounting period when the earliest accounting period has expired	
C	One that is changed in response to changes in the level of activity	<i>Correct</i>
D	One that is changed in response to changes in costs	

Explanation. A flexed budget adjusts based on actual levels of activity, allowing for more accurate performance evaluation by comparing actual costs to what the costs should have been for the actual level of activity.

8 Investment

The CFO of Lang Co wants to earn a higher return on the company's cash holdings. Which of the following comparable maturity investments will earn Lang the highest expected return?		
A	Certificates of deposit	
B	Treasury bills	
C	Commercial papers	<i>Correct</i>
D	Bank deposits	

Explanation. Commercial papers are unsecured, short-term debt instruments issued by corporations. They typically offer higher returns compared to CDs, T-bills, and bank deposits because they carry higher risk. Corporations issue commercial papers to meet short-term funding needs, and investors demand higher returns for the higher risk.

9 Investment

Which of the following statements about investment decision making is correct?		
A	Opportunity costs are not relevant	
B	The return on capital employed considers the time value of money	
C	A strength of the payback method is that it is based on profitability	
D	Capital budgeting is based on predictions of an uncertain future	<i>Correct</i>

Explanation. Capital budgeting involves making long-term investment decisions, which inherently require predictions about future cash flows, costs, and economic conditions. These predictions are uncertain and involve risk, making this statement accurate.

10 Investment

A project has average estimated cash flows of \$3,000 per year with an initial investment of \$9,000. Depreciation is straight-line with no residual value and the project has a five-year life span. The company has set a Required Rate of Return (RRR) equal to 15% and a target payback period of 2.5 years. Under which investment appraisal method(s), using the company's targets, will the project be accepted?		
1. RRR		
2. Payback basis		
A	1 only	Correct
B	2 only	
C	Both 1 and 2	
D	Neither 1 nor 2	

Explanation. Let's calculate the Net Present Value of the project using RRR as a discount rate:

$$NPV = -\$9,000 + \frac{\$3,000}{1.15} + \frac{\$3,000}{(1.15)^2} + \frac{\$3,000}{(1.15)^3} + \frac{\$3,000}{(1.15)^4} + \frac{\$3,000}{(1.15)^5} \approx \$1,056.$$

NPV is positive, so, the project will be accepted based on this criterion. Payback period is Cost of Investment / Annual Cash Flow = \$9,000 / \$3,000 = 3 years. It is longer than the target period, so the project will not be accepted based on this criterion.

11 Treasury Department

Which of the following would least likely be a function of a treasury department?		
A	Managing relationships with banks	
B	Liquidity management including investment of surplus funds	
C	Currency management	
D	Investment appraisal	Correct

Explanation. Investment appraisal, which involves evaluating the profitability and risks of potential investments, is typically the responsibility of the finance or strategic planning department, not the treasury department. The treasury department may provide input or data for investment appraisal but is not primarily responsible for this function. All other options represent functions of a treasury department.

12 Risk Management

Universal Exports Co limits its operations to exporting overseas. Which of the following statements about Universal's exposure to exchange rate risk is correct?		
A	Universal is exposed to transaction, economic and translation risks	
B	Universal is exposed to transaction and economic risks only	<i>Correct</i>
C	Universal is only exposed to transaction risk	
D	Universal is not exposed to exchange rate risk as currency fluctuations would balance out over time	

Explanation. Transaction risk arises from the effect of exchange rate movements on the value of the company's cash flows from exports. Economic risk (also called operating risk) arises from the long-term effect of exchange rate changes on the company's market value. These are the relevant risks for a company engaged solely in exporting. Translation risk (from option A) arises when a company has foreign subsidiaries whose financial statements need to be converted into the home currency for consolidation. Since Universal Exports Co. only engages in exporting and has no mention of foreign subsidiaries, translation risk is not relevant here.

13 Exchange rate and inflation

In evaluating the impact of relative inflation rates on the demand for a foreign currency, which of the following is true?		
A	Inflation is irrelevant to currency demand	
B	As inflation associated with a foreign economy increases in relation to a domestic economy, demand for the foreign currency falls	<i>Correct</i>
C	As inflation associated with a foreign economy increases in relation to a domestic economy, demand for the foreign currency increases	
D	As inflation associated with a foreign economy decreases in relation to a domestic economy, demand for the foreign currency falls	

Explanation. If a foreign country experiences higher inflation compared to the domestic economy, the value of the foreign currency is expected to fall because its purchasing power is declining. As a result, demand for the foreign currency decreases.

14 Governance in the public sector

Which of the following factors is likely to impact the strategic objectives of a public sector body or organization more than that of a private sector organization?		
A	The power of shareholders	
B	Government trade policy	
C	Overall government policy objectives	<i>Correct</i>
D	Government competition policy	

Explanation. Public sector bodies are typically more directly influenced by overall government policy objectives because they are often created to fulfill specific government mandates and serve the public interest. These organizations must align their strategic objectives with the broader goals set by the government.

15 Corporate Governance

Which of the following is not a principle of corporate governance?		
A	Rights of shareholders	
B	Board responsibilities	
C	Auditor's accountability and remuneration	<i>Correct</i>
D	Risk management and internal control	

Explanation. While auditor accountability is important, remuneration of auditors is not typically considered a core principle of corporate governance.

16 Projects Evaluation

Fly Co gathered the following data about cash flows (in \$):						
	Year 1	Year 2	Year 3	Year 4	Year 5	
Project A	(10,000)	3,000	3,000	3,000	3,000	
Project B	(25,000)	15,000	15,000	(10,000)	15,000	
Project C	(10,000)	5,000	5,500	0	0	
The annual interest rate is 10%. Which project(s) will be acceptable for investment based on the NPV criterion?						
A	Projects A, B, and C					
B	Projects B and C only					
C	Project B only					<i>Correct</i>
D	Projects A and B only					

Explanation. We will calculate net present value of the cash flows of all three projects and note that only for B it is positive:

$$NPV_A = \frac{-10,000}{1.1} + \frac{3,000}{(1.1)^2} + \frac{3,000}{(1.1)^3} + \frac{3,000}{(1.1)^4} + \frac{3,000}{(1.1)^5} \approx -446$$

$$NPV_B = \frac{-25,000}{1.1} + \frac{15,000}{(1.1)^2} + \frac{15,000}{(1.1)^3} + \frac{-10,000}{(1.1)^4} + \frac{15,000}{(1.1)^5} \approx 3,423$$

$$NPV_C = \frac{-10,000}{1.1} + \frac{5,000}{(1.1)^2} + \frac{5,500}{(1.1)^3} \approx -826$$

17. Discounted Cash Flow Methods

Consider the following graph.

Which of the following statements is true?

A	Project Y has a higher Internal Rate of Return than project X	<i>Correct</i>
B	At discount rate of less than 15%, project Y is preferred to project X	
C	Project X is preferred if the company's cost of capital is above 15%	
D	Both projects have an Internal Rate of Return of 15%	

Explanation. The graph shows that Project Y's NPV line intersects the x-axis at a higher discount rate than Project X's NPV line. This indicates that Project Y has a higher IRR than Project X. Statements B and C are opposite to the truth.

18. Discounted Cash Flow Methods

Salem Co is considering a six-year project that produces annual net cash inflows of \$420,000 for the first five years and a net cash inflow of \$100,000 at the end of the sixth year. The project will require an initial investment of \$1,800,000. Salem's cost of capital is 10%.

What is the net present value for this project? Choose the closest number.

A	\$83,000	
B	(\$108,200)	
C	(\$151,400)	<i>Correct</i>
D	(\$442,000)	

Explanation. Let's calculate NPV according to the standard formula:

$$NPV = -1,800,000 + \frac{420,000}{1.1} + \frac{420,000}{(1.1)^2} + \frac{420,000}{(1.1)^3} + \frac{420,000}{(1.1)^4} + \frac{420,000}{(1.1)^5} + \frac{100,000}{(1.1)^5} \approx -151,422$$

19 Financial fraud and Ponzi scheme

A person has been promising investors in their company a very high annual return on their investment. To fund these promised returns, the person has been taking money from new investors and using it to pay the high returns demanded by earlier investors.

What type of fraudulent activity is the person committing?

A	Manipulating revenue reporting	
B	Advance fee fraud	
C	False invoicing	
D	A pyramid-style scheme	Correct

Explanation. The described activity is characteristic of a pyramid scheme, which is similar to a Ponzi scheme. In a pyramid scheme, returns to earlier investors are paid from the contributions of newer investors rather than from profit earned by the operation of a legitimate business.

20 Investment, instruments and risk management

Assume that initially the exchange rate is 1 USD = 1 EUR. A company in Europe sells a product to a customer in the United States for \$1,000. By the time the customer pays, the value of the European currency has strengthened by 20% compared to the US dollar.

What will the final amount the company receives in its local European currency be?

A	€416.67	
B	€1,200	
C	€833.33	Correct
D	€400	

Explanation. As the Euro has strengthened, the new exchange rate is 1 USD = 1/1.2 ≈ 0.83333 EUR. Thus, 1,000 USD is 833.33 \$.

21 Progressive Income Tax

Consider the following income tax brackets.

Income	Marginal tax rate
\$0 – \$10,000	10%
\$10,001 – \$30,000	25%
Over \$30,000	35%

Max's income is \$25,000. Oscar pays twice as much income tax as Max. Find Oscar's effective tax rate.

A	19.00%	
B	23.75%	Correct
C	27.93%	
D	38.00%	

Explanation: Max pays $\$10,000 \times 0.1 + \$15,000 \times 0.25 = \$4750$ of income tax.

Oscar pays $2 \times \$4750 = \9500 of income tax.

We are confident that Oscar's income is over $\$30,000$. Denote Oscar's income by a .

The equation $\$10,000 \times 0.1 + \$20,000 \times 0.25 + (a - \$30,000) \times 0.35 = \$9500$ has a solution $a = \$40,000$.

Oscar's effective tax rate is $\$9500 / \$40,000 = 0.2375 = 23.75\%$.

22 Mortgage Payments

George has found an apartment for $\$200,000$. After making a 20% down payment, he takes out a 30-year mortgage to pay the rest of the price in monthly installments. The monthly interest rate is 1%. Which of the following options would double the monthly installments?

A	Halving the mortgage term	
B	Doubling the monthly interest rate	
C	Halving the down payment	
D	None of the other options is correct.	<i>Correct</i>

Explanation: (A) Halving the mortgage term would increase the monthly payment, but it would not double it because the payment amount depends on the interest accumulation over time. (B) Doubling the monthly interest rate from 1% to 2% would significantly increase the monthly payment, but not exactly double it. The relationship between interest rate and payment is not linear. (C) Halving the down payment from 20% to 10% increases the loan amount from $\$160,000$ to $\$180,000$, it does not double the monthly payments.

23 Intertemporal Choice

Mr. Mouse has no money for his vacation today, but after a year he will have $\$1000$ for his vacation. He can borrow some money at an annual interest rate of 10% to go on vacation now, pay back the loan after one year and use the rest of the money for the vacation after one year as well. His total utility function is $U(N, L) = N \times L$, where N is the amount he spends on the vacation now and L is the amount he spends on the vacation in one year. How much should he spend now to maximize his total utility?

A	$\$45.45$	
B	$\\$454.55$	<i>Correct</i>
C	$\$500.00$	
D	$\$909.09$	

Explanation: Borrowing and spending N dollars now means paying back $N \times (1 + 10\%) = 1.1 \times N$ after one year, so later he can spend $L = \$1000 - 1.1 \times N$ dollars. The total utility of spending N dollars now and $\$1000 - 1.1 \times N$ dollars later is

$$U(N, 1000 - 1.1 \times N) = N \times (1000 - 1.1 \times N) = 1000N - 1.1 \times N^2.$$

The quadratic function has a maximum at $N^* = 1000 / (2 \times 1.1) = \mathbf{\$454.55}$. He pays back $\$454.55 \times 1.1 = \500 and spends $L = \$500$ on vacations later.

24 Investment and Taxes

Lydia wants to put her savings into an account to earn some interest. She analyzes the savings account market and finds that the best available interest rate is 5% per annum and takes this offer. Her sister, Elisa, has saved the same amount of money as Lydia, but she does not want to put her money into a bank account; instead, she goes for a subscription in government bonds, which pay 4.8% per annum. The marginal tax rate on interest is 10%. However, the fixed interest rate earned on government bonds is tax exempt. The expected rate of inflation for the next year is 2.5%. Which of the two sisters will be better off at the end of the year?

A	Lydia	
B	Elisa	<i>Correct</i>
C	They will be equally well off	
D	Not enough information	

Explanation: Lydia will pay a 10% tax, so the effective interest rate is $5\% \times (1 - 0.9) = 4.5\%$, which is lower than tax-exempt Elisa's bond return, and thus Elisa is better off. Inflation is irrelevant since it affects both sisters equally.

25 Expected Present Value

An annual event created \$100,000 positive cash flow this year. The cash flow is expected to grow by 2% per year, if it continues. The probability of this event to continue for every next year is 95%. Discount rate is 7%.

Assume that the cash flows are generated at the end of each year and that if the event is once canceled, it generates 0 cash flows in all subsequent years forever. Choose the number closest to the Present Value of the expected future cash flows in the **following two years**.

A	\$160,000	
B	\$184,000	
C	\$173,000	<i>Correct</i>
D	\$2,000	

Explanation. The cash flow in each of the following years can be calculated by adding 2% to the previous year's cash flow. PV of cash flow is calculated by dividing cash flow by $(1.07)^t$, where t is the number of years since today. Expected discounted cash flow is calculated by multiplying discounted cash flow by probability of a project happening in a given year t, which is $(0.95)^t$. All this is summarized in the table:

	Cash flow	Discounted cash flow	Probability of happening	Expected discounted cash flow
Year 1	\$102,000.00	\$95,327.10	0.95	\$90,560.75
Year 2	\$104,040.00	\$90,872.57	0.9025	\$82,012.49
Total				\$172,573.24