1) In financial statement analysis, expressing all financial statement items as a percentage of base-year amounts is called

A. Horizontal common-size analysis.

B. Vertical common-size analysis.

C. Variance analysis.

D. Ratio analysis.

A. Horizontal common-size analysis.

Answer (A) is **correct**.
Expressing financial statement items as percentages of corresponding base-year figures is a horizontal form of common-size (percentage) analysis that is useful for evaluating trends. The base amount is assigned the value of 100%, and the amounts for other years are denominated in percentages compared to the base year.

B. Vertical common-size analysis.

Answer (B) is **incorrect**.
Vertical common-size (percentage) analysis presents figures for a single year expressed as percentages of a base amount on the balance sheet (e.g., total assets) and on the income statement (e.g., sales).

C. Variance analysis.

Answer (C) is **incorrect**.
Variance analysis is the comparison of budgeted and actual amounts.

D. Ratio analysis.

Answer (D) is **incorrect**.
It is a general term.

2) In assessing the financial prospects for a firm, financial analysts use various techniques. An example of vertical, common-size analysis is

A. An assessment of the relative stability of a firm's level of vertical integration.

B. A comparison in financial ratio form between two or more firms in the same industry.

C. Advertising expense is 2% greater compared with the previous year.

D. Advertising expense for the current year is 2% of sales.

A. An assessment of the relative stability of a firm's level of vertical integration.

Answer (A) is **incorrect**.
Vertical integration occurs when a corporation owns one or more of its suppliers or customers.

B. A comparison in financial ratio form between two or more firms in the same industry.

Answer (B) is **incorrect**.
Vertical, common-size analysis restates financial statements amounts as percentages.

C. Advertising expense is 2% greater compared with the previous year.

Answer (C) is **incorrect**.
A statement that advertising expense is 2% greater than in the previous year results from horizontal analysis.

D. Advertising expense for the current year is 2% of sales.

Answer (D) is **correct**.
Vertical, common-size analysis compares the components within a set of financial statements. A base amount is assigned a value of 100%. For example, total assets on a common-size balance sheet and net sales on a common-size income statement are valued at 100%. Common-size statements permit evaluation of the efficiency of various aspects of operations. An analyst who states that advertising expense is 2% of sales is using vertical, common-size analysis.

3) A company has provided the following data pertaining to one of its products.

Year	Unit Sales	Unit Sales Price	Gross Profit Margin
1	1,000	$50	45%
2	1,200	$55	48%

Which one of the following statements is **correct**?

A. The cost per unit sold decreased 3% during Year 2.

B. The dollar amount of gross profit increased by 3% during Year 2.

C. The percentage increase in the sales price exceeded the percentage increase in the cost per unit sold during Year 2.

D. The cost per unit increased during Year 2, in line with the increase in unit sales.

A. The cost per unit sold decreased 3% during Year 2.

Answer (A) is **incorrect**.
The change in cost per unit is not calculated by the difference in gross profit margin from Year 1 to Year 2. The cost per unit sold increased by 4%, not decreased by 3%, in Year 2.

B. The dollar amount of gross profit increased by 3% during Year 2.

Answer (B) is **incorrect**.
The dollar amount of gross profit increased from $22,500 ($50,000 sales – $27,500 COGS) in Year 1 to $31,680 ($66,000 sales – $34,320 COGS) in Year 2. This represents an increase of 40.8% [($31,680 – $22,500) ÷ $22,500], not 3%.

C. The percentage increase in the sales price exceeded the percentage increase in the cost per unit sold during Year 2.

Answer (C) is **correct**.
Gross profit margin can be expressed as sales less COGS (gross profit) divided by sales. The Year 1 gross profit margin is given as 45%. This can be used to calculate the Year 1 COGS as follows:

$$45\% = (\$50{,}000 - \text{COGS}) \div \$50{,}000$$
$$\$22{,}500 = \$50{,}000 - \text{COGS}$$
$$\text{COGS} = \$27{,}500$$

Because the company sold 1,000 units, the COGS per unit is equal to $27.50 ($27,500 ÷ 1,000 units).

The Year 2 Gross Profit Margin is given as 48%. This can be used to calculate the Year 2 COGS as follows:

$$48\% = (\$66{,}000 - \text{COGS}) \div \$66{,}000$$
$$\$31{,}680 = \$66{,}000 - \text{COGS}$$
$$\text{COGS} = \$34{,}320$$

Because the company sold 1,200 units, the COGS per unit is equal to $28.60 ($34,320 ÷ 1,200 units).

Sales price increased by 10% [($55 – $50) ÷ $50] while COGS increased by 4% [($28.60 – $27.50) ÷ $27.50]. Thus, the percentage increase in the sales price exceeded the percentage increase in the cost per unit sold during Year 2.

D. The cost per unit increased during Year 2, in line with the increase in unit sales.

Answer (D) is **incorrect**.
If sales price increased by 10% [($55 – $50) ÷ $50] while COGS increased by 4% [($28.60 – $27.50) ÷ $27.50], then the percentage increase in the sales price exceeded the percentage increase in the cost per unit sold during Year 2.

4) An enterprise is in the process of comparing its current financial performance for Year 3 with the prior 2 years. The enterprise experienced exceptionally strong growth between Years 1 and 2, with a slight decrease in sales between Years 2 and 3.

	Year 1	Year 2	Year 3
Net sales	$4,560,000	$30,980,400	$26,583,220
Cost of goods sold	2,378,900	24,655,340	21,444,985
Selling expenses	490,000	1,289,466	2,099,800
General and administrative expenses	290,500	500,000	600,000

Which one of the following statements is correct when using common-size analysis to compare the results?

A. The enterprise's profitability increased each year due to more efficient production processes.

B. The enterprise experienced the highest proportion of selling expenses in Year 2, which led to the high net sales.

C. The enterprise increased the percentage of general and administrative expenses each year in order to manage the company's growth.

D. The enterprise's proportion of gross profit was lowest in Year 3 due to high production costs.

A. The enterprise's profitability increased each year due to more efficient production processes.

Answer (A) is **incorrect**.
Although the enterprise's profitability increased in Years 2 and 3 relative to Year 1, the gross profit proportion in Years 2 and 3 was lower than Year 1.

B. The enterprise experienced the highest proportion of selling expenses in Year 2, which led to the high net sales.

Answer (B) is **incorrect**.

The enterprise did not experience the highest proportion of selling expenses in Year 2.

C. The enterprise increased the percentage of general and administrative expenses each year in order to manage the company's growth.

Answer (C) is **incorrect**.
Although general and administrative expenses increased, their proportion did not increase.

D. The enterprise's proportion of gross profit was lowest in Year 3 due to high production costs.

Answer (D) is **correct**.
Expressing financial statement items as percentages of corresponding base-year figures is a form of common-size (percentage) analysis that is useful for evaluating trends. Net sales represents 100% on a common-size income statement. Although gross profit was higher in Year 3 than in Year 1, its proportion relative to net sales and using common-size analysis is the lowest. Cost of goods sold is the highest proportionally compared to Years 1 and 2.

5) The following financial information is given.

	Year 1	Year 2
Book value of assets	$18,000	$26,000
Market value of equity	18,000	60,000
	12 months ended Year 1	12 months ended Year 2
Sales	$ 1,000	$ 1,300
Cost of goods sold	500	700
Operating income	500	600
Depreciation expense	200	200
Interest expense	100	100
Pretax income	200	300
Income tax expense	80	120
Net income	$ 120	$ 180

Using a common-size income statement, did operating income and net income increase or decrease?

Operating income	Net income

A. Increased Increased

B. Increased Decreased

C. Decreased Increased

D. Decreased Decreased

A. Increased Increased

Answer (A) is **incorrect**.
Although total operating income increased, it decreased when restated in common size.

B. Increased Decreased

Answer (B) is **incorrect**.
Although total operating income increased, it decreased when restated in common size. Furthermore, both actual net income and common-size net income increased.

C. Decreased Increased

Answer (C) is **correct**.
A common-size income statement restates line items as a percentage of net sales. The table below provides these percentages.

	Year 1	Year 2
Sales	100.00%	100.00%
Cost of goods sold	50.00%	53.85%
Operating income	**50.00%**	**46.15%**
Depreciation expense	20.00%	15.38%
Interest expense	10.00%	7.69%
Pretax income	20.00%	23.08%
Income tax expense	8.00%	9.23%
Net income	**12.00%**	**13.85%**

The common-size operating income decreased, while net income increased.

D. Decreased Decreased

Answer (D) is **incorrect**.
Both actual net income and common-size net income increased.

6) A company has had the following financial results for the last four years.

	Year 1	Year 2	Year 3	Year 4
Sales	$1,250,000	$1,300,000	$1,359,000	$1,400,000
Cost of goods sold	750,000	785,000	825,000	850,000
Gross profit	500,000	515,000	534,000	550,000
Inflation factor	1.00	1.03	1.07	1.10

The company has analyzed these results using vertical common-size analysis to determine trends. The performance of the company can **best** be characterized by which one of the following statements?

A. The common-size gross profit percentage has decreased as a result of an increasing common-size trend in cost of goods sold.

B. The common-size trend in sales is increasing and is resulting in an increasing trend in the common-size gross profit margin.

C. The common-size trend in cost of goods sold is decreasing which is resulting in an increasing trend in the common-size gross profit margin.

D. The increased trend in the common-size gross profit percentage is the result of both the increasing trend in sales and the decreasing trend in cost of goods sold.

A. The common-size gross profit percentage has decreased as a result of an increasing common-size trend in cost of goods sold.

Answer (A) is **correct**.
The common-size gross profit percentage has decreased as a result of an increasing common-size trend in cost of goods sold as shown below.

	Year 1	Year 2	Year 3	Year 4
Sales	100%	100%	100%	100%
Cost of goods sold (÷ Sales)	60.0%	60.3%	60.7%	60.7%
Gross profit (÷ Sales)	40.0%	39.6%	39.2%	39.2%

B. The common-size trend in sales is increasing and is resulting in an increasing trend in the common-size gross profit margin.

Answer (B) is **incorrect**.
In a common-size income statement, sales revenue is used as a base, so its percentage is always 100% on the common-size statement and does not increase.

C. The common-size trend in cost of goods sold is decreasing which is resulting in an increasing trend in the common-size gross profit margin.

Answer (C) is **incorrect**.
The common-size trend in cost of goods sold is increasing, not decreasing. As a result, the gross profit as a percentage of sales is decreasing.

D. The increased trend in the common-size gross profit percentage is the result of both the increasing trend in sales and the decreasing trend in cost of goods sold.

Answer (D) is **incorrect**.
In a common-size income statement, sales revenue is used as a base, so its percentage is always 100% on the common-size statement and does not increase. As a percentage of sales, cost of goods sold is increasing. Therefore, the common-size gross profit percentage decreases over the years.

7) Select information from a company's year-end balance sheet is shown below.

Balance Sheet

As of December 31, Year 1

Cash	$ 50,000
Accounts receivable	120,000
Inventory	75,000
Property, plant and equipment, net	250,000
Total assets	$495,000
Accounts payable	$ 35,000
Long-term debt	100,000
Total liabilities	135,000
Common stock	300,000
Retained earnings	60,000

Total equity	360,000
Total liabilities and equity	$495,000

Based on the above information, a common-size balance sheet for the company will show

A. Long-term debt at 74%.

B. Property, plant and equipment, net at 69%.

C. Retained earnings at 17%.

D. Accounts receivables at 24%.

A. Long-term debt at 74%.

Answer (A) is **incorrect**.
Long-term debt should be reported at 20% ($100,000 ÷ $495,000) on a common-size balance sheet.

B. Property, plant and equipment, net at 69%.

Answer (B) is **incorrect**.
Property, plant and equipment, net, should be reported at 51% ($250,000 ÷ $495,000) on a common-size balance sheet.

C. Retained earnings at 17%.

Answer (C) is **incorrect**.
Retained earnings should be reported at 12% ($60,000 ÷ $495,000) on a common-size balance sheet.

D. Accounts receivables at 24%.

Answer (D) is **correct**.
Items on common-size financial statements are expressed as percentages of total assets on the balance sheet. Thus, the company will record accounts receivables at 24% ($120,000 ÷ $495,000) on a common-size balance sheet.

8) The dollar value of a company's ending inventory on its balance sheet was $500,000, $600,000, and $400,000 for Years 1, 2, and 3, respectively. In preparing a horizontal analysis with Year 1 as the base year, the percentage change shown for Year 3 would be

A. (25%)

B. (20%)

C. 20%

D. 80%

A. (25%)

Answer (A) is **incorrect**.
The base year value should be the denominator when calculating percentage change. Using the Year 3 value as the denominator results in (25%).

B. (20%)

Answer (B) is **correct**.
Horizontal analysis is the concept that the amounts for several periods are stated in percentages of a base-year amount. If Year 1 is the base year, the percentage change for Year 3 is negative 20% [($400,000 – $500,000) ÷ $500,000].

C. 20%

Answer (C) is **incorrect**.
The base year value should be subtracted from the Year 3 value to determine the numerator when calculating percentage change.

D. 80%

Answer (D) is **incorrect**.
Failing to subtract the base year value from the Year 3 value to determine the numerator results in 80%.

9) A financial analyst is reviewing a company's most recent fiscal year financial statements. The relevant data is shown below.

Assets ($000)		Liabilities and Equity ($000)	
Cash	$ 150	Accounts payable	$ 300
Accounts receivable	250	Notes payable	200
Inventory	400	Long-term debt	500
Plant and equipment, net	1,200	Common equity	1,000
Total	$2,000	Total	$2,000

The analyst would like to examine the company in relation to other firms in the industry utilizing common-size financial statements. The appropriate comparative value for current assets is

A. 20%

B. 25%

C. 35%

D. 40%

A. 20%

Answer (A) is **incorrect**.
The amount of 20% fails to include inventory as a current asset.

B. 25%

Answer (B) is **incorrect**.
The amount of 25% results from deducting inventory from both assets and current assets.

C. 35%

Answer (C) is **incorrect**.
The amount of 35% totals the current assets incorrectly.

D. 40%

Answer (D) is **correct**.
On a common-size balance sheet, total assets equal 100%. Thus, $2,000 represents 100%. Current assets total $800 ($150 + $250 + $400). Thus, current assets would be reported at 40% ($800 ÷ $2,000).

10) A company has the following balances on its financial statements:

Revenue	$32,000,000
Cost of sales	16,000,000
Net income	4,000,000
Total assets	80,000,000
Total equity	40,000,000

A common-size income statement would show net income as

A. 5.0%

B. 10.0%

C. 12.5%

D. 25.0%

A. 5.0%

Answer (A) is **incorrect**.
The amount of 5.0% incorrectly uses total assets as the denominator instead of revenue. Total assets represent 100% on the balance sheet, while net revenue represents 100% on the income statement.

B. 10.0%

Answer (B) is **incorrect**.
The amount of 10.0% incorrectly uses total equity as the denominator instead of revenue.

C. 12.5%

Answer (C) is **correct**.
A common-size income statement presents income as a percentage of net revenue (i.e., net sales). Thus, dividing $4,000,000 of net income by $32,000,000 of revenue results in common-size net income of 12.5%.

D. 25.0%

Answer (D) is **incorrect**.
The amount of 25.0% incorrectly uses cost of sales as the denominator instead of revenue.

11) An abbreviated common-size income statements for Year 1's actual results and Year 2's anticipated results are shown below.

	Year 1	Year 2
Sales	100%	100%
Cost of goods sold	50%	50%
Selling and administrative expenses	40%	?
Operating Income	10%	?

The corporation estimates that units sold will increase by 5% in Year 2 with no price increase to its customers and no anticipated cost increases from its vendors. Assume selling and administrative expenses are 5% variable and 95% fixed. If all predictions materialize, the corporation should expect selling and administrative expenses in Year 2 to be

A. Less than 40% of sales.

B. 40% of sales.

C. Greater than 40% but no more than 42% of sales.

D. Greater than 42% of sales.

A. Less than 40% of sales.

Answer (A) is **correct**.
This question is best answered using actual numbers. Assume that sales in Year 1 are $500. Because total selling and administrative expenses are 40% of Year 1 sales, selling and administrative expenses equal $200 ($500 × 40%). Given that 5% of this is variable and 95% is fixed, variable expense equals $10 ($200 × 5%) and fixed expense equals $190 ($200 × 95%). In relation to sales, variable selling and administrative expenses are equal to 2% ($10 variable ÷ $500 sales) of sales. This percent will help calculate the variable selling and administrative expenses in Year 2.
In Year 2, sales increase by 5%, making Year 2 sales equal to $525 ($500 Year 1 sales × 1.05 increase). The fixed portion of the selling and administrative expenses is equal to $190. The variable portion can be solved by multiplying 2% by sales of $525, which results in $10.50. Therefore, total selling and administrative expenses are equal to $200.50, about 38.20% ($200.50 ÷ $525) of Year 2 sales, which is less than 40%.

B. 40% of sales.

Answer (B) is **incorrect**.
Selling and administrative expenses are not the same in Year 2 as they were in Year 1.

C. Greater than 40% but no more than 42% of sales.

Answer (C) is **incorrect**.
Year 2 selling and administrative expenses are not greater than 40% of sales.

D. Greater than 42% of sales.

Answer (D) is **incorrect**.
Year 2 selling and administrative expense are not greater than 42% of sales.

12) The accounting manager of a manufacturer of farming equipment was asked by the CFO to analyze the company's last 5 years of operations. The accounting manager prepared the following analysis:

Common Base Year Income Statement

Base Year = December 31, Year 1

Year 2	Year 3	Year 4	Year 5	Year 6

Sales	1.01	1.03	1.05	1.07	1.10
Cost of goods sold	1.05	1.03	1.02	1.00	0.98
Selling and administrative expenses	1.01	1.01	1.01	1.02	1.03
Research and development	1.00	0.98	0.99	1.00	1.01
Income from operations	1.02	1.02	1.03	1.05	1.09

Which one of the following statements is consistent with this analysis?

A. The company should decrease the sales force.

B. The new marketing strategy has been unsuccessful.

C. The company should decrease research and development expenses.

D. The new production process has successfully reduced manufacturing expenses.

A. The company should decrease the sales force.

Answer (A) is **incorrect**.
Since selling and administrative expenses have increased from 1.01 to 1.03, the sales force may be increased.

B. The new marketing strategy has been unsuccessful.

Answer (B) is **incorrect**.
Sales have increased each year. Thus, the marketing strategy has not been unsuccessful.

C. The company should decrease research and development expenses.

Answer (C) is **incorrect**.
Research and development costs have remained steady, moving from 1.00 in Year 2 to 1.01 in Year 6.

D. The new production process has successfully reduced manufacturing expenses.

Answer (D) is **correct**.
Cost of goods sold has decreased each year. Year 2 is 1.05, while Year 6 is only .98.

13) Shown below are components of a company's financial statements.

Sales revenue	$ 600,000
Cost of goods sold	300,000
Total assets	2,400,000
Total equity	1,500,000
Net income	120,000

What percentage value would net income be on a common size financial statement?

A. 5%

B. 8%

C. 20%

D. 40%

A. 5%

Answer (A) is **incorrect**.
Net income should be divided by sales revenue rather than total assets.

B. 8%

Answer (B) is **incorrect**.
Net income should be divided by sales revenue rather than total equity.

C. 20%

Answer (C) is **correct**.
To determine the percentage of net income, total net income is divided by the sales revenue. Thus, the percentage of net income is 20% ($120,000 ÷ $600,000).

D. 40%

Answer (D) is **incorrect**.
Net income should be divided by sales revenue rather than cost of goods sold.

14) A financial analyst is reviewing a competitor's income statements for the past 2 years.

	Year 1	Year 2
Sales	£250,000	£275,000
Cost of goods sold	155,000	160,000
Gross profit	95,000	115,000
Selling expenses	35,000	40,000
General expenses	45,000	50,000
Operating income before income taxes	15,000	25,000
Taxes related to operations	2,500	3,500
Net income	£ 12,500	£ 21,500

The financial analyst is able to conclude that the competitor's

A. Common size income statements will show operating income before income taxes at 22% for Year 2.

B. Common size income statements will show taxes related to operations at 16% for Year 2.

C. Common base year income statements will show that gross profit increased by 17% in Year 2 as compared to Year 1.

D. Common base year income statements will show that selling expenses increased by 14% in Year 2 as compared to Year 1.

A. Common size income statements will show operating income before income taxes at 22% for Year 2.

Answer (A) is **incorrect**.
The common-size income statements will show operating income before income taxes at 9.1%, not 22%, for Year 2 (£25,000 ÷ £275,000 = 0.0909).

B. Common size income statements will show taxes related to operations at 16% for Year 2.

Answer (B) is **incorrect**.
In Year 2, the taxes related to operations have an applicable percentage of 1.3% (£3,500 ÷ £275,000).

C. Common base year income statements will show that gross profit increased by 17% in Year 2 as compared to Year 1.

Answer (C) is **incorrect**.
Gross profit increased by 21% in Year 2 compared to the gross profit of Year 1 {[(£115,000 – £95,000) ÷ £95,000] = 0.2105}.

D. Common base year income statements will show that selling expenses increased by 14% in Year 2 as compared to Year 1.

Answer (D) is **correct**.
Selling expenses went from £35,000 in Year 1 to £40,000 in Year 2. Relative to Year 1 selling expenses, the selling expenses increased 14% in Year 2 {[(£40,000 – £35,000) ÷ £35,000] = 0.14 (rounded)}.

15) A company's financial statements from the past 2 years have the following values.

	Previous year	Current year
Sales revenue	$ 6,000,000	$ 6,600,000
Net income	500,000	540,000
Total assets	10,000,000	10,500,000
Inventory	600,000	500,000

Using horizontal analysis, what account has the **largest** percentage change?

A. Sales revenue.

B. Net income.

C. Total assets.

D. Inventory.

A. Sales revenue.
Answer (A) is **incorrect**.
Sales revenue increased by 10% in the current year [($6,600,000 – $6,000,000) ÷ $6,000,000]. However, inventory had a larger percentage change.

B. Net income.
Answer (B) is **incorrect**.
Net income increased by 8% in the current year [($540,000 – $500,000) ÷ $500,000]. However, inventory and sales revenue had larger percentage changes.

C. Total assets.
Answer (C) is **incorrect**.
Total assets increased by 5% [($10,500,000 – $10,000,000) ÷ $10,000,000]. However, this account had the lowest percentage change.

D. Inventory.
Answer (D) is **correct**.
Inventory decreased by approximately 17% (rounded) in the current year [($600,000 – $500,000) ÷ $600,000]. Relative to the other accounts, inventory had the largest percentage change in the current year.

16) A useful tool in financial statement analysis is the common-size financial statement. What does this tool enable the financial analyst to do?

A. Evaluate financial statements of companies within a given industry of approximately the same value.

B. Determine which companies in the same industry are at approximately the same stage of development.

C. Compare the mix of assets, liabilities, capital, revenue, and expenses within a company over time or between companies within a given industry without respect to relative size.

D. Ascertain the relative potential of companies of similar size in different industries.

A. Evaluate financial statements of companies within a given industry of approximately the same value.
Answer (A) is **incorrect**.
Common-size statements are designed to permit comparison of different-sized companies.

B. Determine which companies in the same industry are at approximately the same stage of development.
Answer (B) is **incorrect**.
Common-size statements do not reveal the stage of development of a company.

C. Compare the mix of assets, liabilities, capital, revenue, and expenses within a company over time or between companies within a given industry without respect to relative size.
Answer (C) is **correct**.
A common-size financial statement presents the items in a financial statement as percentages of a common base. The items in a balance sheet are usually stated in percentages of total assets. The items in the income statement are usually expressed as a percentage of sales. Thus, comparisons among firms in the same industry are possible despite differences in size. Comparison of firms in different industries has drawbacks because the optimal mix of assets, liabilities, etc., will vary from industry to industry.

D. Ascertain the relative potential of companies of similar size in different industries.
Answer (D) is **incorrect**.
Common-size statements are not useful for comparing companies in different industries.