Numerical Reasoning

Test 5

Solutions Booklet

Instructions

This practice test contains **30 questions**, and you will have **30 minutes** to answer them.

Each question will have four possible answers, one of which is correct.

Calculators are permitted for this test. It's recommended to have some rough paper for your calculations. You will have to work quickly and accurately to perform well in this test. If you don't know the answer to a question, leave it and come back to it if you have time.

Try to find a time and place where you will not be interrupted during the test. When you are ready, turn to the next page and begin.

Total Product Sales by Demographic

	Units sold				Annual Target	Product Sales Target
	Qtr 1	Qtr 2	Qtr 3	Qtr 4	(Unit sales)	(Euros)
Greece	26000	30000	31300	21000	110000	250000
Portugal	28000	33200	22600	20400	105000	240000
Austria	20000	28300	22500	35000	105000	240000
Ireland	19900	25000	27200	30300	105000	260000
Croatia	21500	29400	25800	28500	110000	230000

Q1 What was the unit sales ratio of Austrian Quarter 4 : Portugal Quarter 1: Greek Quarter 4?

(A) 35:28:22
(B) 5:3:4
(C) 6:4:3
(D) 5:4:3
(E) 3:4:2

Answer:

Step 1: *Put the 3 countries into a ratio*
Austria (Quarter 4) : Portugal (Quarter 1): Greek (Quarter 4)
= 35,000: 28,000: 21,000
Step 2: *Simplify the ratio (recognize that 7 is a common denominator)*
5:4:3
Thus, the correct answer is (D) 5:4:3

Total Product Sales by Demographic

	Units sold				Annual Target	Product Sales Target
	Qtr 1	Qtr 2	Qtr 3	Qtr 4	(Unit sales)	(Euros)
Greece	26000	30000	31300	21000	110000	250000
Portugal	28000	33200	22600	20400	105000	240000
Austria	20000	28300	22500	35000	105000	240000
Ireland	19900	25000	27200	30300	105000	260000
Croatia	21500	29400	25800	28500	110000	230000

Q2 Which country met or exceeded its annual target for unit sales?

(A) Greece
(B) Portugal
(C) Austria
(D) Ireland
(E) Croatia

Tip: *Notice that all the available answers have just one country, so we know that as soon as we have found one country that exceeded its target, we have the correct answer and we can move on.*

Answer:

Step 1: *Calculate the total unit sales for each country*
Greece = 108,300
Portugal = 104,200
Austria = 105,800
Ireland = 102,400
Croatia = 105,200
Step 2: *Compare each total to the Yearly Target (Unit sales)*
Targets are either 105,000 or 110,000.
Only Austria has exceeded its 105,000 target.
Thus, the correct answer is (C) Austria

Total Product Sales by Demographic

	Units sold				Annual Target	Product Sales Target
	Qtr 1	Qtr 2	Qtr 3	Qtr 4	(Unit sales)	(Euros)
Greece	26000	30000	31300	21000	110000	250000
Portugal	28000	33200	22600	20400	105000	240000
Austria	20000	28300	22500	35000	105000	240000
Ireland	19900	25000	27200	30300	105000	260000
Croatia	21500	29400	25800	28500	110000	230000

Q3 The previous year's average number of Portuguese units sold per quarter was 20% higher than the year shown. What was the previous year's average number of Portuguese units sold per quarter?

(A) 104,200
(B) 31,260
(C) 26,050
(D) 21,260
(E) 20,840

Answer:

Step 1: *Calculate this year's average number of Portuguese units sold per quarter*
(28,000 + 33,200 + 22,600 + 20,400) / 4 = 104,200 /4 = 26,050
Step 2: *Calculate a 20% increase to get last year's average number of Portuguese units sold per quarter*
26,050 x 1.2 = 31,260
Thus, the correct answer is (B) 31,260

Total Product Sales by Demographic

	Units sold				Annual Target	Product Sales Target
	Qtr 1	Qtr 2	Qtr 3	Qtr 4	(Unit sales)	(Euros)
Greece	26000	30000	31300	21000	110000	250000
Portugal	28000	33200	22600	20400	105000	240000
Austria	20000	28300	22500	35000	105000	240000
Ireland	19900	25000	27200	30300	105000	260000
Croatia	21500	29400	25800	28500	110000	230000

Q4 If Austria's annual corporation tax was 22% on the first €200,000 of sales and 20% on sales exceeding €200,000, how much is their corporation tax bill for the year (assuming each unit is sold at €3.5)?

(A) €34,000
(B) €34,060
(C) €37,060
(D) €44,000
(E) €78,060

Answer:

Step 1: *Calculate the total value of Austrian unit sales*
Total Austrian unit sales = 105,800
Total value of Austrian unit sales = 105,800 x €3.5 = €370,300
Step 2: *Calculate the corporation tax for the first €200,000 of Austrian unit sales*
€200,000 x 22% = €44,000
Step 3 *- Calculate the tax for sales exceeding €200,000*
€370,300 - €200,000 = €170,300
€170,300 x 20% = €34,060
Step 4 *– Calculate the total tax*
€44,000 + €34,060
Thus, the correct answer is (E) €78,060

Total Product Sales by Demographic

	Units sold				Annual Target	Product Sales Target
	Qtr 1	Qtr 2	Qtr 3	Qtr 4	(Unit sales)	(Euros)
Greece	26000	30000	31300	21000	110000	250000
Portugal	28000	33200	22600	20400	105000	240000
Austria	20000	28300	22500	35000	105000	240000
Ireland	19900	25000	27200	30300	105000	260000
Croatia	21500	29400	25800	28500	110000	230000

Q5 Greek and Irish sales generated 2.5 Euros per unit sold, whilst the other countries' sales generated 2.25 Euros per unit sold. Which country or countries exceeded their Annual Product Sales Target?

(A) Portugal and Austria
(B) Ireland and Austria
(C) Croatia and Austria
(D) Croatia and Greece
(E) Ireland and Greece

Answer:

Step 1: *Calculate the total unit sales for each country*
Using the earlier question's total unit sales for each country
Greece = 108,300 x 2.5 = 270,750
Portugal = 104,200 x 2.25 = 234,450
Austria = 105,800 x 2.25 = 238,050
Ireland = 102,400 x 2.5 = 256,000
Croatia = 105,200 x 2.25 = 236,700
Step 2: *Compare each total to the Annual Product Sales Target*
Only Croatia and Greece exceeded their respective targets.
Thus, the correct answer is (D) Croatia and Greece

Share	Price today (£)	Price yesterday (£)
Share A	20.0	19.4
Share B	4.2	3.9
Share C	18.1	19.3
Share D	5.6	5.1
Share E	3.1	3.3
Exchange Rate	**Today**	**Yesterday**
$	$1.62 to the £	$1.63 to the £
€	€1.23 to the £	€1.22 to the £

Q6 Which shares have increased and decreased respectively in value by the largest percent from yesterday to today?

(A) Share D, Share A
(B) Share D, Share C
(C) Share D, Share E
(D) Share B, Share A
(E) Share B, Share C

Tip: *The wording of the question for percentage increases and decreases is critical. Since the wording says "FROM yesterday TO today" the calculation we must perform is (today) ÷ (yesterday). To determine this, think about how you would increase something by say 20%. You multiply the original by 1.2 to get the increased result.*

Answer:

Step 1: *Calculate the % change in value for each share*

Share A: 20 /19.4 = 3.1% increase
Share B: 4.2 / 3.9 = 7.7% increase
Share C: 18.1 / 19.3 = 6.2% decrease
Share D: 5.6 / 5.1 = 9.8% increase
Share E: 3.1 / 3.3 = 6.1% decrease
Thus, the correct answer is (B) Share D, Share C

Share	Price today (£)	Price yesterday (£)
Share A	20.0	19.4
Share B	4.2	3.9
Share C	18.1	19.3
Share D	5.6	5.1
Share E	3.1	3.3
Exchange Rate	**Today**	**Yesterday**
$	$1.62 to the £	$1.63 to the £
€	€1.23 to the £	€1.22 to the £

Q7 A dealer buys 250 Share Ds and 350 Share Es at yesterday's prices and sells these at today's prices. How much profit or loss does the dealer make?

(A) £125 profit
(B) £70 profit
(C) £55 profit
(D) £125 loss
(E) £70 loss

Answer:

Step 1: *Calculate the Share D profit/loss*
250 x (5.6-5.1) = 125 profit
Step 2: *Calculate the Share E profit/loss*
350 x (3.1-3.3) = 70 loss
Step 3 *– Calculate the overall profit/loss*
125 profit – 70 loss = £55 profit
Thus, the correct answer is (C) £55 profit

Share	Price today (£)	Price yesterday (£)
Share A	20.0	19.4
Share B	4.2	3.9
Share C	18.1	19.3
Share D	5.6	5.1
Share E	3.1	3.3
Exchange Rate	**Today**	**Yesterday**
$	$1.62 to the £	$1.63 to the £
€	€1.23 to the £	€1.22 to the £

Q8 A trader has 200,000 Share Bs to sell at today's price and today plans to split her proceeds equally into an investment in Share A and Share D. In how many Share As and Share Ds does the trader invest?

(A) 20,000 Share A and 70,000 Share D
(B) 21,000 Share A and 75,000 Share D
(C) 22,000 Share A and 80,000 Share D
(D) 23,000 Share A and 85,000 Share D
(E) 24,000 Share A and 90,000 Share D

Answer:

Step 1: *Calculate the amount invested per share*
200,000 x 4.2 = £840,000
£840,000 / 2 = £420,000 per share A and D.
Step 2: *Calculate the number of Share A shares at today's prices*
£420,000/20 = 21,000 of Share A
***Step 3** – Calculate the number of Share D shares at today's prices*
£420,000/5.6 = 75,000 of Share D
***Tip:** If at this point you had answers in decimals you should question whether that's correct and go back.*
Thus, the correct answer is (B) 21,000 Share A and 75,000 Share D

Share	Price today (£)	Price yesterday (£)
Share A	20.0	19.4
Share B	4.2	3.9
Share C	18.1	19.3
Share D	5.6	5.1
Share E	3.1	3.3
Exchange Rate	**Today**	**Yesterday**
$	$1.62 to the £	$1.63 to the £
€	€1.23 to the £	€1.22 to the £

Q9 What was the total cost of buying 550 Share C's yesterday and 1,050 Share E's today (to the nearest $1,000)?

(A) $11,000
(B) $14,000
(C) $17,000
(D) $18,000
(E) $23,000

Answer:

Step 1: *Calculate the cost of 550 Share Cs bought yesterday*
550 x 19.3 = £10,615
Step 2: *Change into $*
10,615 x 1.63 = $17,302.45
***Step 3** – Calculate the cost of 1,050 Share Es bought today*
1,050 x 3.1 = £3,255
***Step 4** – Change into $*
3,255 x 1.62 = $5,273.1
***Step 5** – Calculate the total cost*
$17,302.45+ $5,273.1 = $22,575.55
***Tip:** If you forgot to convert into dollars, your answer of £14,000 looks very similar to option (B) and you would have got this question wrong. Often, distracters like this are included in the answers to catch you out.*
Thus, the correct answer is (E) $23,000

Share	Price today (£)	Price yesterday (£)
Share A	20.0	19.4
Share B	4.2	3.9
Share C	18.1	19.3
Share D	5.6	5.1
Share E	3.1	3.3
Exchange Rate	**Today**	**Yesterday**
$	$1.62 to the £	$1.63 to the £
€	€1.23 to the £	€1.22 to the £

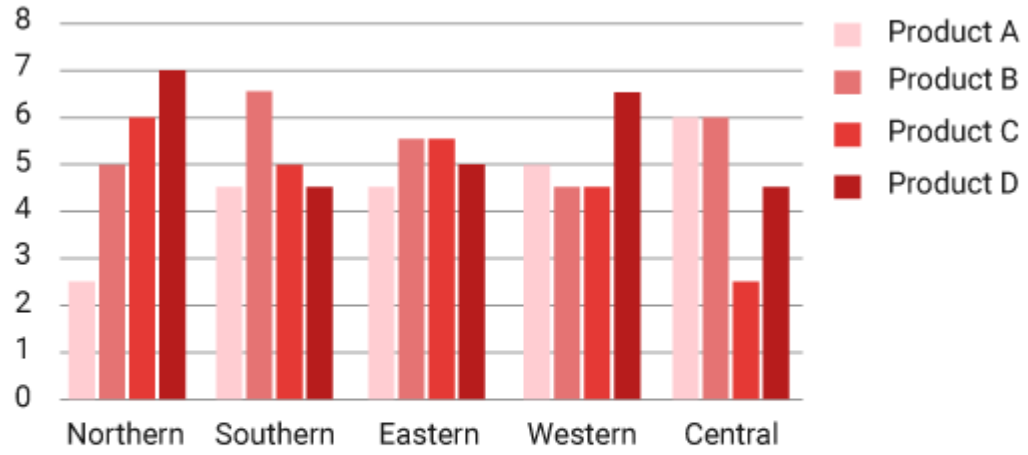
Q10 Today's prices for Share A and Share C (in Euros) respectively represent a 15% decrease and a 22% increase on the price (in Euros) one year ago. What were the respective prices a year ago (to the nearest Euro)?

(A) €18 (Share A); €18 (Share C)
(B) €22 (Share A); €22 (Share C)
(C) €29 (Share A); €29 (Share C)
(D) €29 (Share A); €18 (Share C)
(E) €29 (Share A); €30 (Share C)

Answer:

Step 1: *Convert share prices in to Euros*
Share A: 20 x 1.23 = €24.6
Share C: 18.1 x 1.23 = €22.263
Step 2: *Calculate the Share A price one year ago*
24.6 ÷ 0.85 = €28.94
***Step 3** – Calculate the Share C price one year ago*
22.263 ÷ 1.22 = €18.25
Thus, the correct answer is (D) €29 (Share A); €18 (Share C)

Year 2 Product Sales by UK region (£10,000s)



Year 1 and Year 3

% of total Sales	Northern	Southern	Eastern	Western	Central
Year 1	22	24	22	18	14
Year 3	24	20	24	16	16

Q11 Which two products had the same total product sales in Year 2?

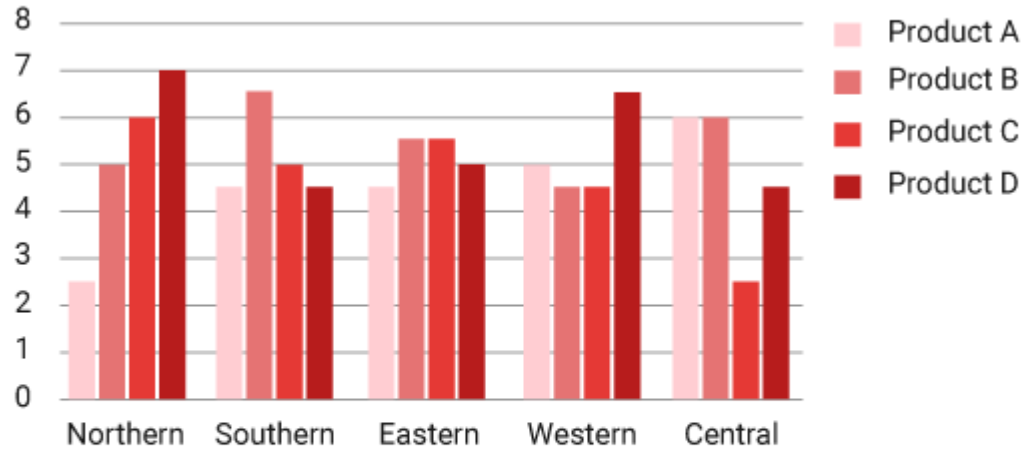
(A) Product A and Product B
(B) Product A and Product C
(C) Product A and Product D
(D) Product B and Product C
(E) Product B and Product D
There is nothing difficult about this one, just a lot of careful calculator work.

Answer:

Step 1: *Calculate Year 2 product sales for each product*

Product A total = 22.5
Product B total = 27.5
Product C total = 23.5
Product D total= 27.5
Thus, the correct answer is (E) Product B and Product D

Year 2 Product Sales by UK region (£10,000s)



Year 1 and Year 3

% of total Sales	Northern	Southern	Eastern	Western	Central
Year 1	22	24	22	18	14
Year 3	24	20	24	16	16

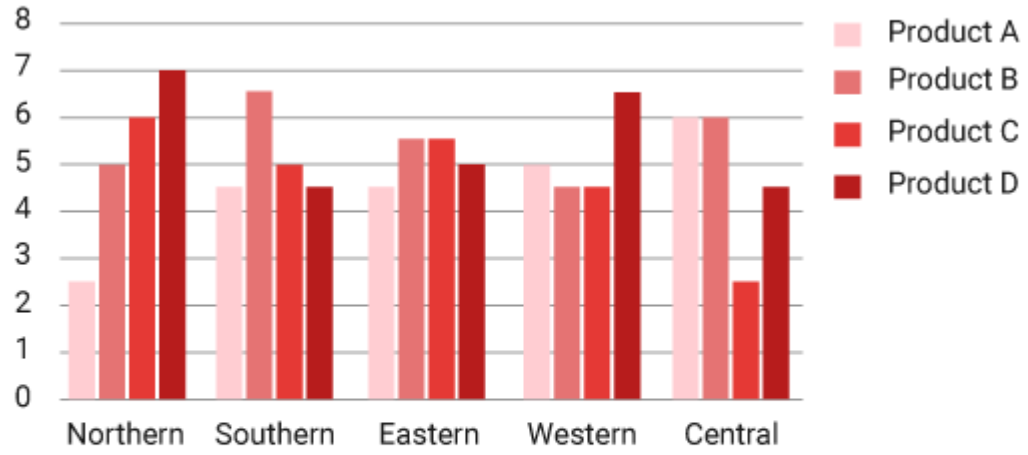
Q12 As a percentage of total sales across all regions, how has the Eastern region's sales changed between Year 1 and Year 2?

(A) 1% less
(B) 1.7% more
(C) 1.7% less
(D) 3% more
(E) 3% less
The information that you need is in the graph (Year 2) and the table (Year 1)

Answer:

Step 1: *Calculate the Eastern region's % of total sales (Year 2)*
Eastern region's Year 2 sales = 4.5 + 5.5 + 5.5 + 5.0 = 20.5
Add up the total sales for all products across all regions (Year 2)
(2.5 + 5 + 6 + 7 + 4.5 + 6.5 + 5 + 4.5 + 4.5 + 5.5 + 5.5 + 5 + 5 + 4.5 + 4.5 + 6.5 + 6 + 6 + 2.5 + 4.5) = 101 (£10,000s).
Now as a % of total sales this is 20.5 / 101 = 20.3% for year 2.
Step 2: *Calculate the change between Year 1 and Year 2*
Year 1 from the table is given as 22%
And 22 – 20.3 = 1.7%
Thus, the correct answer is (C) 1.7% less

Year 2 Product Sales by UK region (£10,000s)



Year 1 and Year 3

% of total Sales	Northern	Southern	Eastern	Western	Central
Year 1	22	24	22	18	14
Year 3	24	20	24	16	16

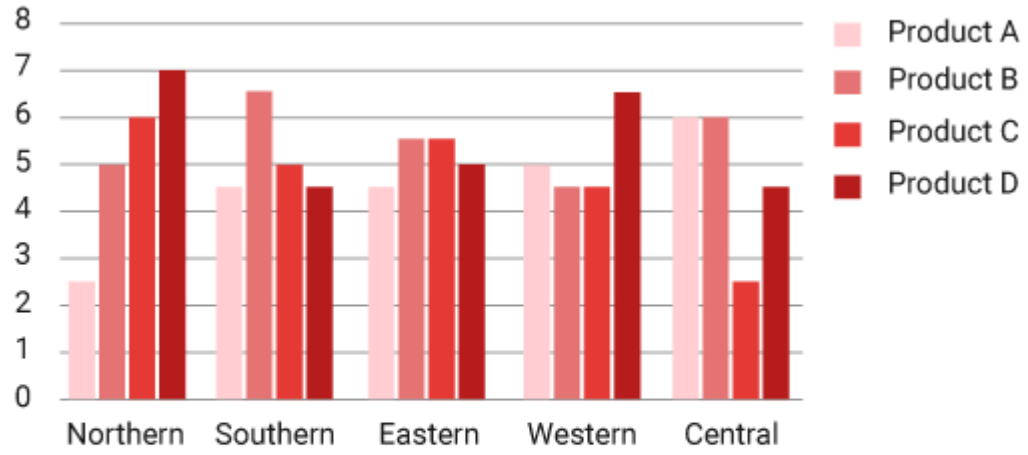
Q13 For products A, B, C and D combined, which region had a sales value different from the other regions in Year 2?

(A) Western
(B) Eastern
(C) Central
(D) Northern
(E) None of these

Answer:

Step 1: *Calculate the total sales for each region*
Eastern = 4.5 + 5.5 + 5.5 + 5 = 20.5
Northern = 2.5 + 5 + 6 + 7 = 20.5
Southern = 4.5 + 6.5 + 5 + 4.5 = 20.5
Western = 5 + 4.5 + 4.5 + 6.5 = 20.5
Central = 6 + 6 + 2.5 + 4.5 = 19
We can now see that the Central region had a value not equal to the others.
Thus, the correct answer is (C) Central

Year 2 Product Sales by UK region (£10,000s)



Year 1 and Year 3

% of total Sales	Northern	Southern	Eastern	Western	Central
Year 1	22	24	22	18	14
Year 3	24	20	24	16	16

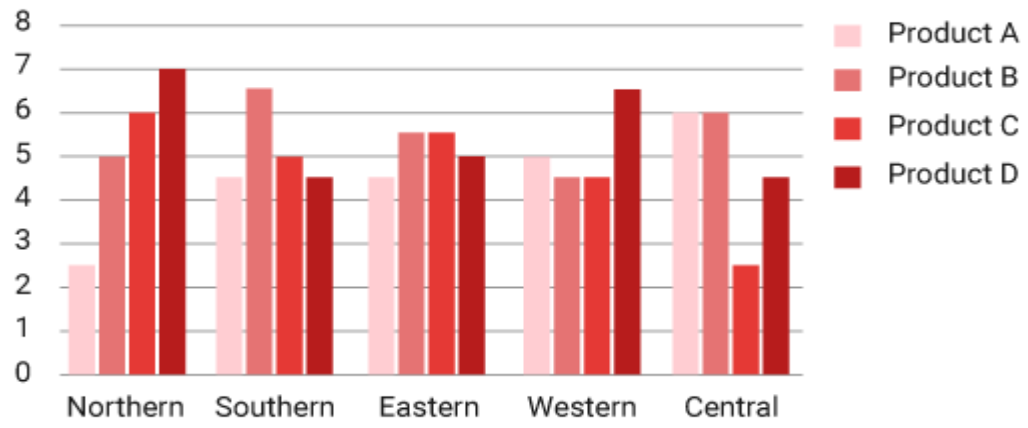
Q14 The 5 regions shown represent UK product sales, which is one-quarter of the value of US product sales and 50% of the value of Asian product sales. What are Year 2's total product sales for all 3 territories combined?

(A) £9,010,000
(B) £7,070,000
(C) £5,000,000
(D) £3,030,000
(E) £1,010,000

Answer:

Step 1: *Refer back to the earlier question for the Year 2 product sales for each product (this is why it's useful to have legible notes on your rough workings).*
Step 2: *Calculate the total Year 2 product sales for the UK*
Total = 22.5 + 27.5 + 23.5 + 27.5 = 101 (10,000's) = 1,010,000
Step 3 *– Create an equation totaling the sales of all 3 territories*
Total = UK + US + Asia
Total = 1,010,000 x (1 + 4 + 2) = £7,070,000
Thus, the correct answer is (B) £7,070,000

Year 2 Product Sales by UK region (£10,000s)



Year 1 and Year 3

% of total Sales	Northern	Southern	Eastern	Western	Central
Year 1	22	24	22	18	14
Year 3	24	20	24	16	16

Q15 Which region experienced the greatest change in its share of total UK sales between Year 1 and Year 2?

(A) Northern
(B) Southern
(C) Western
(D) Eastern
(E) Central

The information that you need is in the graph (Year 2) and the table (Year 1)

Answer:

Step 1: *Calculate each region's % of total sales for Year 2 (you can save time by using the figures from a previous question)*
Eastern = 20.5 / 101 = 20.3
Northern = 20.5 / 101 = 20.3
Southern = 20.5 / 101 = 20.3
Western = 20.5 / 101 = 20.3
Central = 19 / 101 = 18.8
Step 2: *Calculate the change in market share between Year 1 and Year 2, as follows;*

N	***S***	***e***	***W***	***c***
22 – 20.3 = 1.7%	*24 – 20.3 = 3.7%*	*22 – 20.3 = 1.7%*	*18 – 20.3 = -2.3%*	*14 – 18.8 = -4.8%*

Thus, the correct answer is (E) Central

Total Liabilities	Previous Year (£million)	Current Year (£million)	Next Year's Projection (£million)
Current Liabilities			
Interest paying loans	135	126	134
Currency swaps	8.5	11.3	6.9
Other current liabilities	42	52	48.3
Non-Current Liabilities			
Interest bearing loans	53	45	42.6
Pension payments	204	196	218
Tax liabilities	48	56.4	49.5

Q16 Next year, which liability is projected to have experienced the second highest percentage change in value compared with last year?

(A) Interest paying loans
(B) Currency swaps
(C) Other current liabilities
(D) Pension payments
(E) Cannot tell

Answer:

Step 1: *Calculate the % change in value for each liability shown.*
Interest paying loans = 134 / 135 = 0.993 = 0.7% decrease
Currency swaps= 6.9 / 8.5= 0.812 = 18.8% decrease – second largest change
Other current liabilities = 48 / 42 = 15% increase
Interest bearing loans = 42.6 / 53 = 19.62% decrease – Largest change
Pension payments = 218 / 204 = 6.9% increase
Tax liabilities = 49.5 / 48 = 3.125% increase.
Thus, the correct answer is (B) Currency swaps

Total Liabilities	Previous Year (£million)	Current Year (£million)	Next Year's Projection (£million)
Current Liabilities			
Interest paying loans	135	126	134
Currency swaps	8.5	11.3	6.9
Other current liabilities	42	52	48.3
Non-Current Liabilities			
Interest bearing loans	53	45	42.6
Pension payments	204	196	218
Tax liabilities	48	56.4	49.5

Q17 What is the average difference between the total Non-Current Liabilities and the total Current Liabilities for the 3 years shown (to the nearest £million)?

(A) £116 million
(B) £117 million
(C) £118 million
(D) £119 million
(E) £120 million

Answer:

Step 1: *Calculate the Previous year's difference between the total Non-current liabilities and the total Current liabilities*
305 – 185.5 = 119.5
Step 2: *Calculate the Current year's difference between the total Non-current liabilities and the total Current liabilities*
297.4 – 189.3 = 108.1
Step 3 *– Calculate Next year's projected difference between the total Non-current liabilities and the total Current liabilities*
310.1 – 189.2 = 120.9
Step 4 *– Calculate the average*
(119.5 + 108.1 + 120.9) / 3 = 116.2
Thus, the correct answer is (A) £116 million

Total Liabilities	Previous Year (£million)	Current Year (£million)	Next Year's Projection (£million)
Current Liabilities			
Interest paying loans	135	126	134
Currency swaps	8.5	11.3	6.9
Other current liabilities	42	52	48.3
Non-Current Liabilities			
Interest bearing loans	53	45	42.6
Pension payments	204	196	218
Tax liabilities	48	56.4	49.5

Q18 If the projected figures shown prove accurate and the same percentage changes occur for each liability in the year after next, what will the total Current Liabilities be in the year after next (to the nearest £million)?

(A) £192 million
(B) £189 million
(C) £187 million
(D) £185 million
(E) £183 million

Answer:

Step 1: *Calculate each Current Liability's % change, as follows*

Interest paying loans	*134 / 126 = 106.35%*
Currency swaps	*6.9 / 11.3 = 61.06 %*
Other current liabilities	*48.3 / 52 = 92.88%*

Step 2: *Calculate each Current Liability's subsequent year's value*

Interest paying loans	*134 x 106.35% = 142.51*
Currency swaps	*6.9 x 61.06% = 4.21*
Other current liabilities	*48.3 x 92.88% = 44.86*

Tip: *instead of writing down the percentage increase for each category, it saves time if you leave the number in your calculator and work out the "subsequent year" figure straight away. In other words, combine steps 1 and 2.*

Step 3 *– Total the Current Liability values*

142.51 + 4.21 + 44.86 = 191.59

Thus, the correct answer is (A) £192 million

Total Liabilities	Previous Year (£million)	Current Year (£million)	Next Year's Projection (£million)
Current Liabilities			
Interest paying loans	135	126	134
Currency swaps	8.5	11.3	6.9
Other current liabilities	42	52	48.3
Non-Current Liabilities			
Interest bearing loans	53	45	42.6
Pension payments	204	196	218
Tax liabilities	48	56.4	49.5

Q19 The Pension payments figure for each year is based upon the following numbers of ex-employees drawing a pension: 8,155 (previous year); 8,240 (current year); 8,325 (next year). What is the average pension payable across the 3 years shown (to the nearest £1,000)?

(A) £15,000
(B) £20,000
(C) £25,000
(D) £30,000
(E) £35,000

Answer:

Step 1: *Calculate the total amount of pension payments across the 3 years shown*
204 + 196 + 218 = £618 million
Step 2: *Calculate the total number of ex-employees drawing a pension across the 3 years shown*
8,155 + 8,240 + 8,325 = 24,720
Step 3 *– Calculate the average pension payable across the 3 years*
£618 million / 24,720 = £25,000
Thus, the correct answer is (C) £25,000

Total Liabilities	Previous Year (£million)	Current Year (£million)	Next Year's Projection (£million)
Current Liabilities			
Interest paying loans	135	126	134
Currency swaps	8.5	11.3	6.9
Other current liabilities	42	52	48.3
Non-Current Liabilities			
Interest bearing loans	53	45	42.6
Pension payments	204	196	218
Tax liabilities	48	56.4	49.5

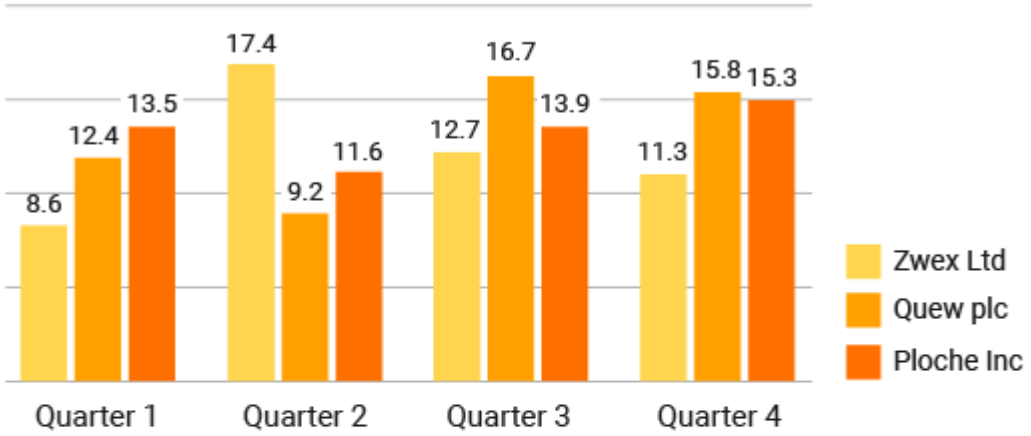
Q20 Next year's projected figures need to be corrected by adding an additional 4% for inflation. What is next year's corrected total Non-Current Liabilities?

(A) £322.5 million
(B) £310.1 million
(C) £309.3 million
(D) £297.7 million
(E) £297.4 million

Answer:

Step 1: *Calculate next year's projected total Non-current liabilities*
Interest bearing loans + Pension payments + Tax liabilities =
42.6 + 218 + 49.5 = 310.1
Step 2: *Correct the total by adding 4% for inflation*
310.1 x 1.04 = £322.5 million
Thus, the correct answer is (A) £322.5 million

2006 Global Income (£100,000s)



Global income (% annual change on year before)

	2007	2008	2009	2010	2011 (projection)
Zwex Ltd	2.3	0.6	2.2	1.8	2.1
Quew plc	-0.7	-0.8	0.3	1.1	1.4
Ploche Inc	1.4	1.2	1.6	0.5	2.9

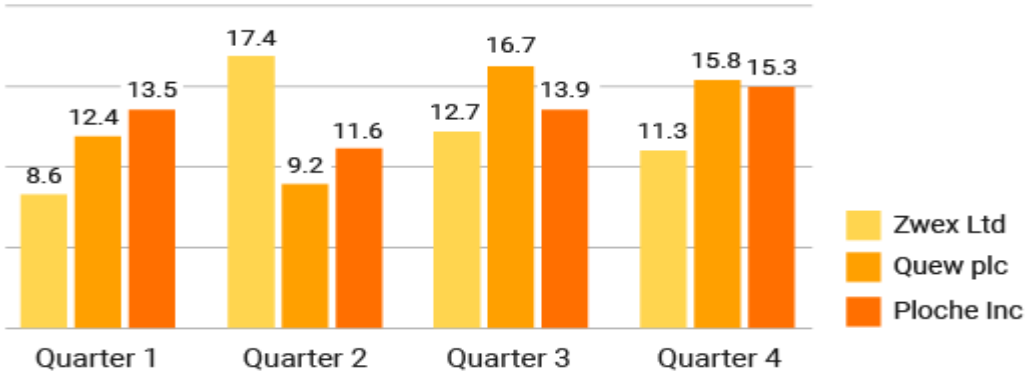
Q21 What was the global income for Ploche Inc in 2007 (to the nearest £10,000)?

(A) £6,000,000
(B) £5,510,000
(C) £5,500,000
(D) £5,430,000
(E) £4,510,000
The information that you need is shown in both the line graph and the histogram.

Answer:

Step 1: *Calculate 2006's global income for Ploche Inc by adding the 4 quarters*
13.5 + 11.6 + 13.9 + 15.3 = 54.3 (£100,000s)
= £5.43 million
Step 2: *Calculate 2007 global income (allowing for the annual change of 1.4%)*
£5.43 million x 1.014 = £5.506 million
***Step 3** - To the nearest £10,000*
£5.506 million = £5,510,000
Thus, the correct answer is (B) £5,510,000

2006 Global Income (£100,000s)



Global income (% annual change on year before)

	2007	2008	2009	2010	2011 (projection)
Zwex Ltd	2.3	0.6	2.2	1.8	2.1
Quew plc	-0.7	-0.8	0.3	1.1	1.4
Ploche Inc	1.4	1.2	1.6	0.5	2.9

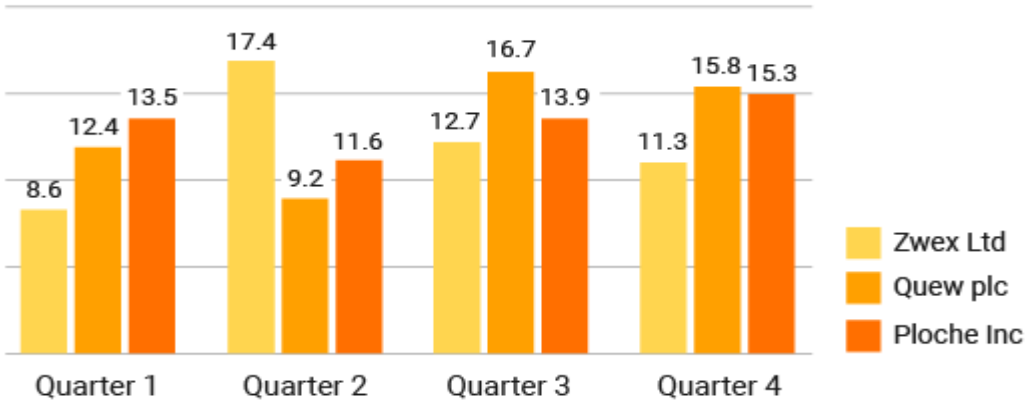
Q22 Which of the following statements is true?

(A) Ploche Inc increased global income each quarter during 2006
(B) Between 2007-2010 Zwex Ltd has experienced 6.9% global income growth
(C) In 2006 Quew plc's global income was £5,430,000
(D) Ploche Inc has experienced positive global growth each year between 2006-2010
(E) The average 2006 Quarter 2 sales were £1.15 million

Answer:

(A) Ploche Inc increased global income each quarter during 2006.
FALSE – not in Quarter 2
(B) Between 2007-2010 Zwex Ltd has experienced 6.9% global income growth.
FALSE - % are cumulative year-on-year. Hence the growth between 2007-2010 is (1.006 x 1.022 x 1.018) = 1.0466, or an increase of 4.66% between 2007 and 2010.
(C) In 2006 Quew plc's global income was £5,430,000
FALSE – it was £5,410,000
(D) Ploche Inc has experienced positive global growth each year between 2006-2010
TRUE
(E) The average 2006 Quarter 2 sales were £1.15 million
FALSE – they were £1.27 million
Thus, the correct answer is (D) Ploche Inc has experienced positive global growth each year between 2006-2010

2006 Global Income (£100,000s)



Global income (% annual change on year before)

	2007	2008	2009	2010	2011 (projection)
Zwex Ltd	2.3	0.6	2.2	1.8	2.1
Quew plc	-0.7	-0.8	0.3	1.1	1.4
Ploche Inc	1.4	1.2	1.6	0.5	2.9

Q23 In which year up to 2010 did Quew plc experience a higher annual % growth than either Zwex Ltd or Ploche Inc?

(A) 2007
(B) 2008
(C) 2009
(D) 2010
(E) None of these

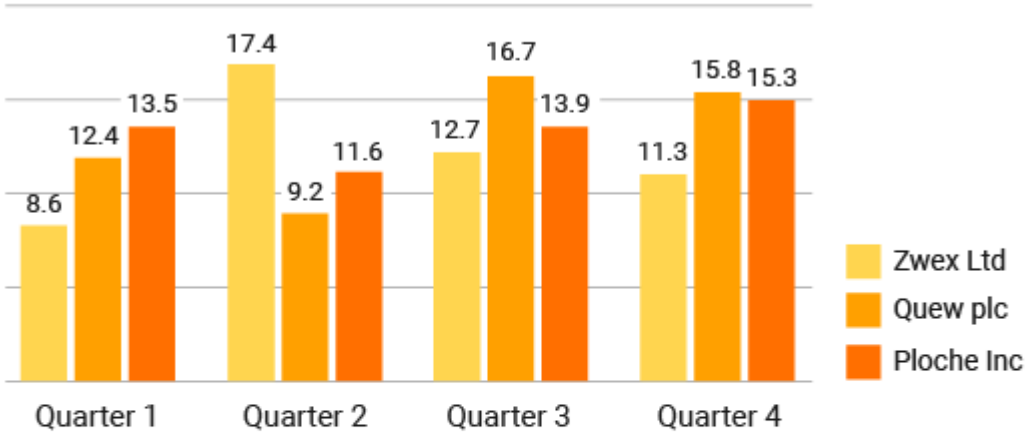
Answer:

Step 1: *Simply compare Quew plc's figures for each period compared to Zwex Ltd and Ploche Inc:*

	2007	*2008*	*2009*	*2010*
Zwex Ltd	*2.3*	*0.6*	*2.2*	*1.8*
Quew plc	***-0.7***	***-0.8***	***0.3***	***1.1***
Ploche Inc	*1.4*	*1.2*	*1.6*	*0.5*

We see that in 2010 Quew grew by 1.1% whilst Ploche grew by 0.5%. Note the question asks for EITHER Zwex or Ploche; don't fall into the trap of looking for a year in which Quew is larger than BOTH Zwex and Ploche.
Thus, the correct answer is (D) 2010

2006 Global Income (£100,000s)



Global income (% annual change on year before)

	2007	2008	2009	2010	2011 (projection)
Zwex Ltd	2.3	0.6	2.2	1.8	2.1
Quew plc	-0.7	-0.8	0.3	1.1	1.4
Ploche Inc	1.4	1.2	1.6	0.5	2.9

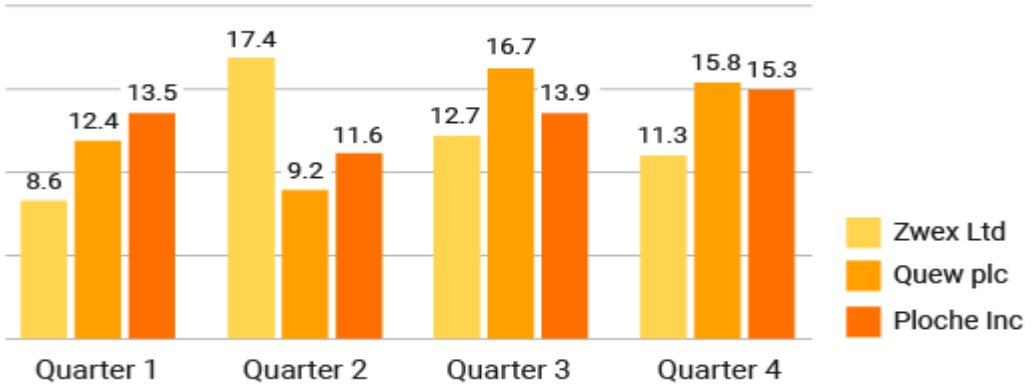
Q24 In 2006 Zwex's Global sales comprised European and non-European sales, which were in the ratio 3:4. What were Zwex's European sales for 2006?

(A) £2.14 million
(B) £2.5 million
(C) £3 million
(D) £3.5 million
(E) £3.75 million

Answer:

Step 1: *Calculate Zwex Ltd's Global sales for 2006*
8.6 + 17.4 + 12.7 + 11.3 = 50 (£100,000s)
Step 2: *Put this figure into the ratio given in the question. If European sales were 3 parts out of a total of 7 (i.e. European plus non-European) we have to multiply by 3/7.*
Step 3 *– Calculate Zwex Ltd's European sales*
£5 million x 3/7 = £2.143 million
Thus, the correct answer is (A) £2.14 million

2006 Global Income (£100,000s)



Global income (% annual change on year before)

	2007	2008	2009	2010	2011 (projection)
Zwex Ltd	2.3	0.6	2.2	1.8	2.1
Quew plc	-0.7	-0.8	0.3	1.1	1.4
Ploche Inc	1.4	1.2	1.6	0.5	2.9

Q25 What was the global income for Quew plc in 2008 (to the nearest £100,000)?

(A) £5.41 million
(B) £5.37 million
(C) £5.33 million
(D) £5.30 million
(E) £5.23 million

The information that you need is shown in both the table and the histogram.

Answer:

Step 1: *Calculate 2006's global income for Quew plc by adding the 4 quarters*
12.4 + 9.2 + 16.7 + 15.8 = 54.1 (£100,000's) = £5.41 million
Step 2: *Calculate 2007 global income (allowing for the global income change of -0.7%)*
£5.41 million x 99.3% = £5.37 million
***Step 3** – Calculate 2008 global income (allowing for the global income change of -0.8%)*
£5.37 million x 99.2% = £5.33 million
***Step 4** - To the nearest £100,000*
£5.33 million = £5.30 million
Note that £5.33 is incorrect as the question asked for to the nearest £100,000.
Thus, the correct answer is (D) £5.30 million

	2006	2007	2008	2009	2010
	(£million)	*(£million)*	*(£million)*	*(£million)*	*(£million)*
Adjusted earnings	1.02	1.05	0.95	0.98	1.11
Cash flow	1.32	1.42	1.34	1.25	1.53
Attributable profit	1.95	2.11	1.93	1.88	2.23
Average profit (per 500 units)	£250	£325	£175	£200	£300
Average sales price (per unit)	£4.50	£4.65	£4.30	£4.15	£4.60

Q26 From 2006 to 2007 Attributable profit increased at double the percentage rate as it did between 2005-2006. What was the Attributable profit figure for 2005?

(A) £0.23 million
(B) £1.03 million
(C) £1.83 million
(D) £1.87 million
(E) £2.03 million

Answer:

Step 1: *Calculate the 2005-2006 rate of Attributable profit increase*
Rate between 2006-2007 = 2.11 / 1.95 = 8.2% increase
Rate between 2005-2006 = 8.2 / 2 = 4.1% increase
Step 2: *Calculate the Attributable profit figure for 2005*
1.95 ÷ 1.041 = 1.87 (£million)
Thus, the correct answer is (D) £1.87 million

	2006	2007	2008	2009	2010
	(£million)	*(£million)*	*(£million)*	*(£million)*	*(£million)*
Adjusted earnings	1.02	1.05	0.95	0.98	1.11
Cash flow	1.32	1.42	1.34	1.25	1.53
Attributable profit	1.95	2.11	1.93	1.88	2.23
Average profit (per 500 units)	£250	£325	£175	£200	£300
Average sales price (per unit)	£4.50	£4.65	£4.30	£4.15	£4.60

Q27 If the target was to have an average profit (per unit) in excess of 50p, in which year or years was this achieved?

(A) 2006
(B) 2006 and 2007
(C) 2010
(D) 2007 and 2010
(E) 2006, 2007 and 2010

Answer:

Step 1: *Calculate the average profit (per unit) as follows:*

2006	*2007*	*2008*	*2009*	*2010*
£250	*£325*	*£175*	*£200*	*£300*
£250 / 500 = £0.50	*£325 / 500 = £0.65*	*£175/ 500 = £0.35*	*£200/ 500 = £0.40*	*£300 / 500 = £0.60*

Note the question asks for "in excess of 50p". So in 2006 where the profit was exactly 50p, this does not satisfy the requirement.
Thus, the correct answer is (D) 2007 and 2010

	2006	2007	2008	2009	2010
	(£million)	*(£million)*	*(£million)*	*(£million)*	*(£million)*
Adjusted earnings	1.02	1.05	0.95	0.98	1.11
Cash flow	1.32	1.42	1.34	1.25	1.53
Attributable profit	1.95	2.11	1.93	1.88	2.23
Average profit (per 500 units)	£250	£325	£175	£200	£300
Average sales price (per unit)	£4.50	£4.65	£4.30	£4.15	£4.60

Q28 In 2011, if Adjusted earnings increase by an eighth and there is a 2:3 ratio of (2011 Adjusted earnings: 2011 Cash flow), what will be the Cash flow in 2011?

(A) £2.14 million
(B) £1.87 million
(C) £1.25 million
(D) £0.83 million
(E) £0.14 million

Answer:

Step 1: *Calculate the 2011 Adjusted earnings*
1.11 x 1 1/8 = 1.249
Step 2: *Calculate the 2011 Cash flow*
Adjusted earnings: Cash flow = 2:3
Cash flow = 1.249 x 3/2 = 1.87
Thus, the correct answer is (B) £1.87 million

	2006	2007	2008	2009	2010
	(£million)	*(£million)*	*(£million)*	*(£million)*	*(£million)*
Adjusted earnings	1.02	1.05	0.95	0.98	1.11
Cash flow	1.32	1.42	1.34	1.25	1.53
Attributable profit	1.95	2.11	1.93	1.88	2.23
Average profit (per 500 units)	£250	£325	£175	£200	£300
Average sales price (per unit)	£4.50	£4.65	£4.30	£4.15	£4.60

Q29 Which year had the lowest ratio of Adjusted earnings to Attributable profit?

(A) 2006
(B) 2007
(C) 2008
(D) 2009
(E) 2010

Answer:

Step 1: *Calculate the ratio for each year as shown in the table below;*

	2006	*2007*	*2008*	*2009*	*2010*
Adjusted earnings/ Attributable profit	*= 1.02/1.95*	*= 1.05/2.11*	*= 0.95/1.93*	*= 0.98/1.88*	*= 1.11/2.23*
	= 0.52	*= 0.498*	*= 0.492*	*= 0.52*	*= 0.50*

Thus, the correct answer is (C) 2008

	2006	2007	2008	2009	2010
	(£million)	*(£million)*	*(£million)*	*(£million)*	*(£million)*
Adjusted earnings	1.02	1.05	0.95	0.98	1.11
Cash flow	1.32	1.42	1.34	1.25	1.53
Attributable profit	1.95	2.11	1.93	1.88	2.23
Average profit (per 500 units)	£250	£325	£175	£200	£300
Average sales price (per unit)	£4.50	£4.65	£4.30	£4.15	£4.60

Q30 Which year from 2007 onwards showed the greatest percentage change in Cash flow compared to the preceding year?

(A) 2006
(B) 2007
(C) 2008
(D) 2009
(E) 2010

Answer:

Step 1: *Calculate the % change in cash flow for each year*

2007	*2008*	*2009*	*2010*
1.42 / 1.32	*1.34 / 1.42*	*1.25 / 1.34*	*1.53/1.25*
= 7.58% (increase)	*= 5.63% (decrease)*	*= 6.72% (decrease)*	*= 22.4% (increase)*

Thus, the correct answer is (E) 2010

End of test