Numerical Test 7

Solutions Booklet

Instructions

This numerical reasoning test comprises **30 questions**, and you will have **30 minutes** in which to correctly answer as many as you can. Calculators are permitted for this test, and it is recommended you have some rough paper to work on.

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. Each question will have five possible answers, one of which is correct. You may click Back and Next during the test to review or skip questions.

You can submit your test at any time. If the time limit is up before you click submit the test will automatically be submitted with the answers you have selected. It is recommended to keep working until the time limit is up.

Try to find a time and place where you will not be interrupted during the test. **The test will begin on the next page.**

Total EU population (1st Jan 2012) = 480 million					
	Belgium	**Denmark**	**Ireland**	**Hungary**	**Greece**
Total Population (millions)	10.4	5.4	4.1	10.1	10.8
Pecentage of Population in Employment (by gender)					
- Female	37.4	34.6	41.4	39.5	36.8
- Male	35.6	58.2	38.8	38.4	34.4
Population Change Factors (per 1,000 population)					
- Increase from births	11.1	12	15.2	13.1	9.6
- Decrease from deaths	9.8	10.3	6.9	10.4	9.5
- Net migration inflow	3.4	0.9	11.8	1.8	3.1

Q1 Which country has the largest number of males in employment?

(A) Belgium
(B) Denmark
(C) Ireland
(D) Hungary
(E) Greece

Step 1 *– Calculate the number of males that are employed in Belgium, Hungary and Greece. Note that Denmark and Ireland have approximately half the total population of the other three countries and so can be ruled out immediately to save time.*

Belgium = 10.4 x 35.6% = 3.7 million
(Denmark = 5.4 x 58.2% = 3.14 million)
(Ireland = 4.1 x 38.8% = 1.6 million)
Hungary = 10.1 x 38.4% = 3.9 million
Greece = 10.8 x 34.4% = 3.7 million

Thus the correct answer is (D) Hungary

Total EU population (1st Jan 2012) = 480 million					
	Belgium	**Denmark**	**Ireland**	**Hungary**	**Greece**
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Pecentage of Population in Employment (by gender)					
- Female	37.4	34.6	41.4	39.5	36.8
- Male	35.6	58.2	38.8	38.4	34.4
Population Change Factors (per 1,000 population)					
- Increase from births	11.1	12	15.2	13.1	9.6
- Decrease from deaths	9.8	10.3	6.9	10.4	9.5
- Net migration inflow	3.4	0.9	11.8	1.8	3.1

Q2 What percentage do the five countries shown represent of the total EU population?

(A) 7.5%
(B) 8.5%
(C) 9.5%
(D) 10.5%
(E) 11.5%

Step 1 *– Total the population of the five countries*

10.4 + 5.4 + 4.1 + 10.1 + 10.8 = 40.8 million
Step 2 – Calculate the % of the total EU population
40.8 / 480 = 8.5%

Thus the correct answer is (B) 8.5%

Total EU population (1st Jan 2012) = 480 million					
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- Net migration inflow	3.4	0.9	11.8	1.8	3.1

Q3 Assuming that there are no other population factors than those shown in the table, what will be the annual population change of the five countries combined?

(A) 143,900
(B) 167,550
(C) 225,340
(D) 368,200
(E) 44.7 million

Step 1 *– Calculate each country's change in population due to the population factors*
Population change = increase from births – decrease from deaths + net migration

Belgium = 11.1 - 9.8 + 3.4 = 4.7
Denmark = 12.0 – 10.3 + 0.9 = 2.6
Ireland = 15.2 – 6.9 + 11.8 = 20.1
Hungary = 13.1 – 10.4 + 1.8 = 4.5
Greece = 9.6 – 9.5 + 3.1 = 3.2

Step 2 *– Calculate the change per 1,000 members of population*

Belgium = 4.7 x 10,400 = 48,880
Denmark = 2.6 x 5,400 = 14,040
Ireland = 20.1 x 4,100 = 82,410
Hungary = 4.5 x 10,100 = 45,450
Greece = 3.2 x 10,800 = 34,560

Step 3 *– Sum the figures for each country to calculate the population change*
48,880 + 14,040 + 82,140 + 45,450 + 34,560 = 225,340

Thus the correct answer is (C) 225,340

Total EU population (1st Jan 2012) = 480 million					
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- Female	37.4	34.6	41.4	39.5	36.8
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- Increase from births	11.1	12	15.2	13.1	9.6
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- Net migration inflow	3.4	0.9	11.8	1.8	3.1

Q4 If the population of Belgium increases at the same %age rate as shown for 2012, in what year will the population reach 10.6 million?

(A) 2015
(B) 2016
(C) 2017
(D) 2018
(E) 2019

Step 1 *– Calculate change in population due to the population factors*
Population change = increase from births – decrease from deaths + net migration.
For Belgium this is: 11.1 - 9.8 + 3.4 = 4.7 (per thousand of the population)
So 4.7 x 10,400 = 48,880 extra people in 2012.

The next step is to work this out as a percentage increase, not just take the number 48,880 and add it to each year.

48,880 ÷ 10,400,000 x 100 = 0.47% increase.

Step 2 *– Calculate the population for subsequent years using this percentage growth.*
2013: 10,400,000 + 48,880 = 10,448,880
2014: 10,448,880 x 1.0047 = 10,497,990
2015: 10,497,990 x 1.0047 = 10,547,330
2016: 10,547,330 x 1.0047 = 10,596,903
2017: 10,596,903 x 1.0047 = 10,696,748

So on day one of 2017 the population is 10,696,748, which means the 10.6m barrier must have been achieved during 2016.

Thus the correct answer is (B) 2016.

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- Net migration inflow	3.4	0.9	11.8	1.8	3.1

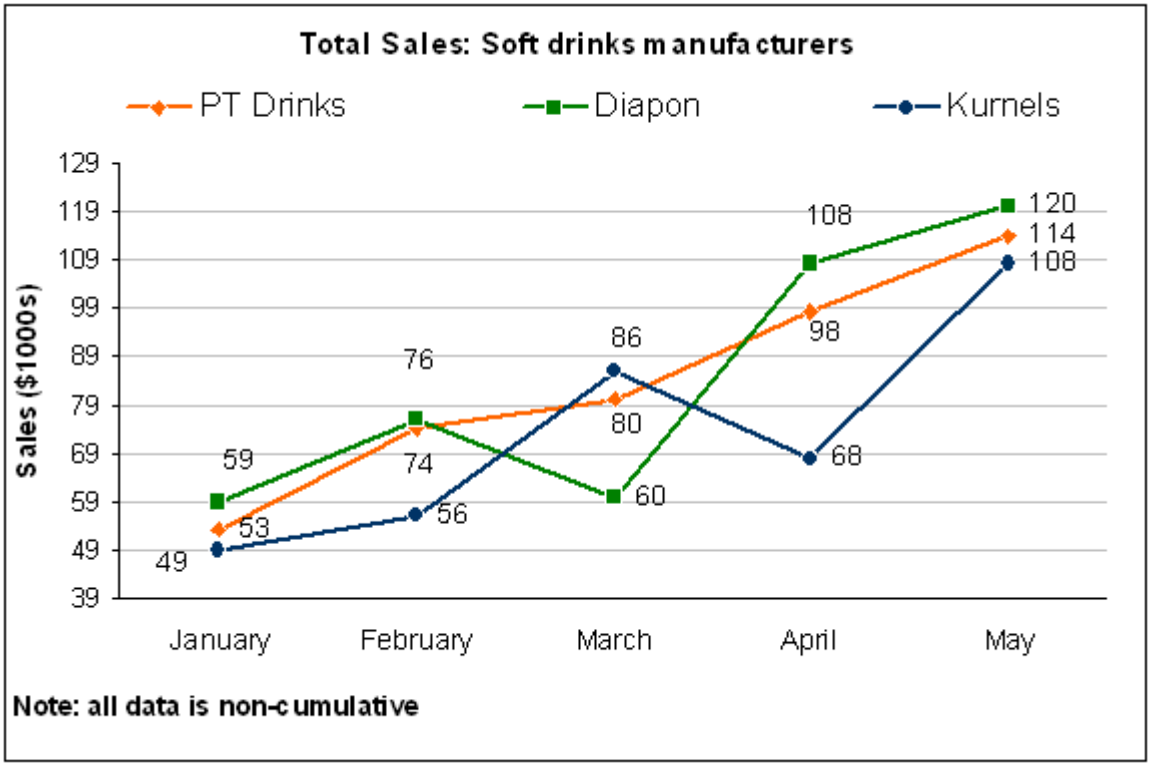
Q5 Which country has the largest absolute difference in the number of people dying compared to the number of people being born?

(A) Belgium
(B) Denmark
(C) Ireland
(D) Hungary
(E) Greece

Step 1 *- Calculate the difference in the birth rate and the mortality rate for four countries (ignoring Greece which has a negligible difference between the two figures):*
Belgium = 11.1 – 9.8 = 1.3
Denmark = 12.0 – 10.3 = 1.7
Ireland = 15.2 – 6.9 = 8.3
Hungary = 13.1 – 10.4 = 2.7

Step 2 *- Calculate the absolute difference for each country*
Belgium = 1.3 x 10,400 = 13,520
Denmark = 1.7 x 5,400 = 9,180
Ireland = 8.3 x 4,100 = 34,030
Hungary = 2.7 x 10,100 = 27,270

Thus the correct answer is (C) Ireland

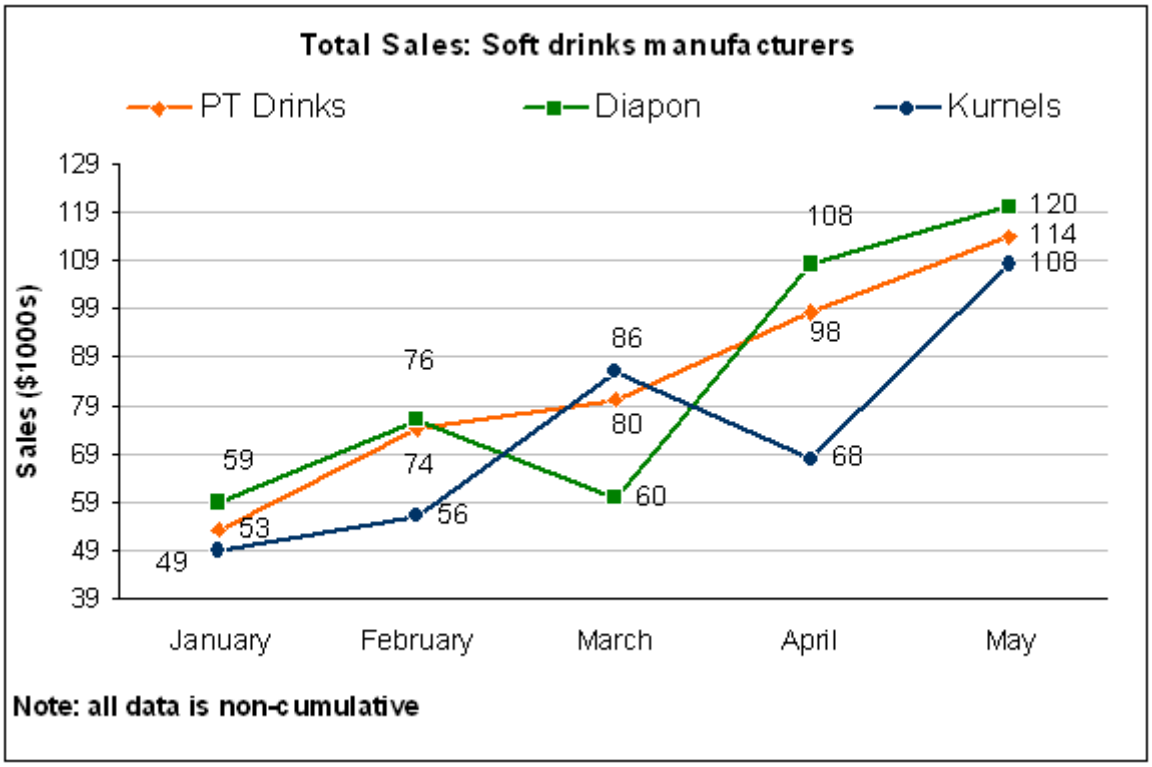


Q6 In which month were PT Drinks sales one-third that of total sales?

(A) January
(B) February
(C) March
(D) April
(E) May

Step 1 *– Calculate for each month the fraction of PT Drinks sales compared to the total sales*
January = 53 / (53 + 59 + 49) = 0.329
February = 74 / (74 + 76 + 56) = 0.359
March = 80 / (80 + 60 + 86) = 0.370
April = 98 / (98 + 108 + 68) = 0.358
May = 114 / (114 + 120 + 108) = 0.333

Thus the correct answer is (E) May



Q7 If Kurnels continued to increase its sales at the same percentage rate as between April and May, what would Kurnels' sales be in August (to the nearest $1,000)?

(A) $272,000
(B) $372,000
(C) $432,000
(D) $2,720,000
(E) $4,320,000

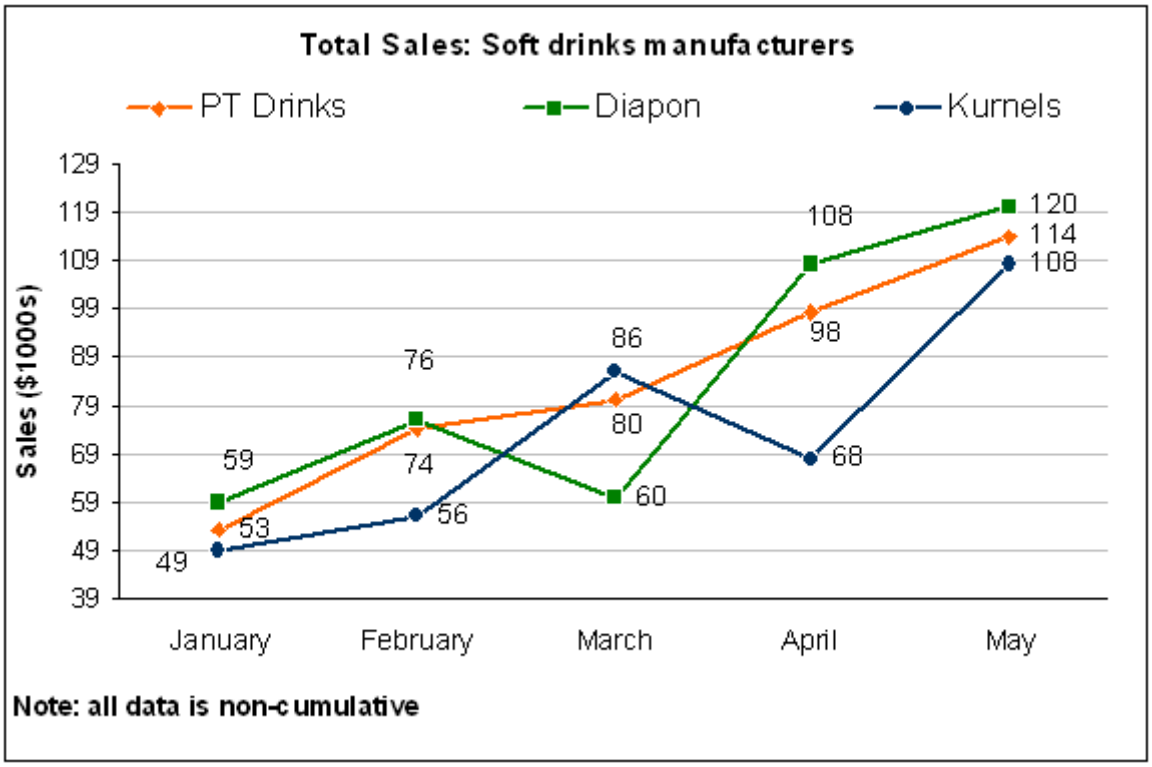
Step 1 *– Calculate the % rate of increase between April – May*

100% x (108 – 68) / 68 = 100% x 40 / 68 = 58.8%
Alternatively, 108 ÷ 68 = 1.588 which is an increase of 58.8%.

Step 2 *– Calculate the future monthly sales figures for Kurnels*

June: 108,000 x 1.588 = 171,504
July: 171,504 x 1.588 = 272,348
August: 272,348 x 1.588 = 432,489
Step 2 – to the nearest $1,000
$432,489 = $432,000

Thus the correct answer is (C) $432,000



Q8 What was the difference between the total sales of Kurnels and those of Diapon between February-May?

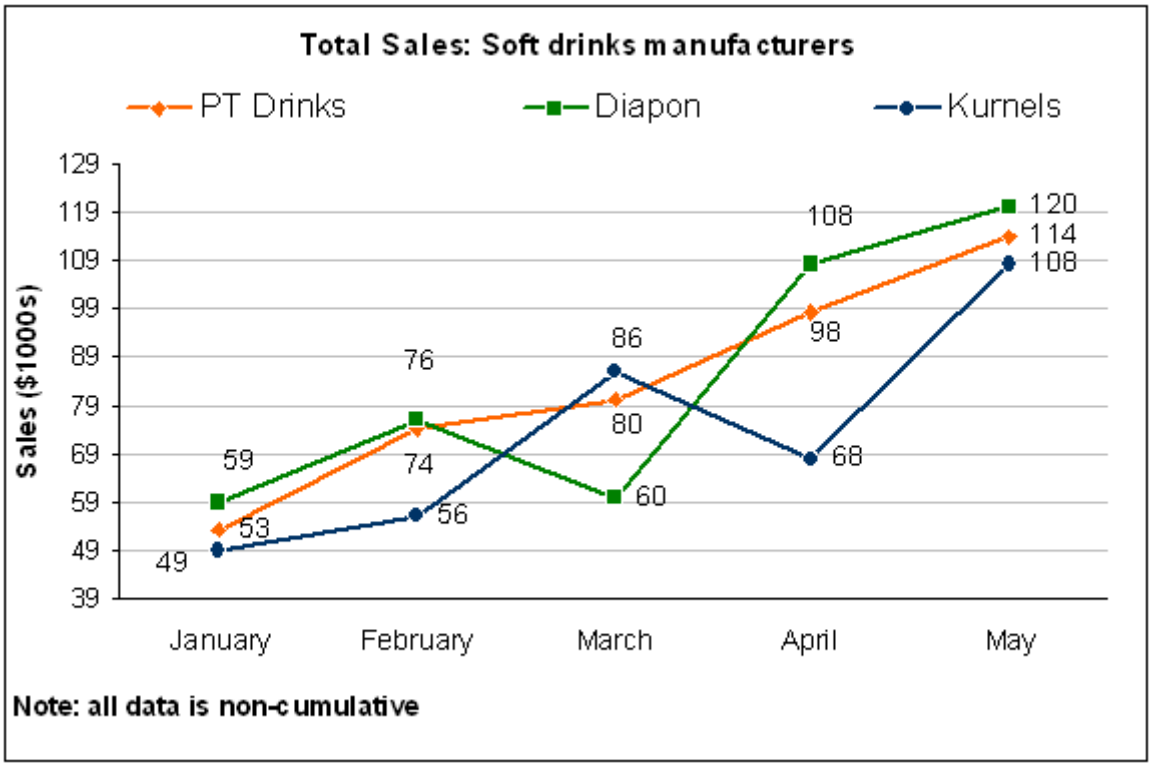
(A) Kurnels smaller by $46,000
(B) Kurnels smaller by $36,000
(C) Kurnels greater by $26,000
(D) Kurnels greater by $36,000
(E) Kurnels greater by $46,000

Step 1 *– Calculate the total sales for Kurnels between February-May*
56 + 86 + 68 + 108 = 318

Step 2 *- Calculate the total sales for Diapon between February-May*
76 + 60 + 108 + 120 = 364

Step 3 *– Calculate the difference between the two totals*
318 – 364 = $46,000 less

Thus the correct answer is (A) Kurnels smaller by $46,000



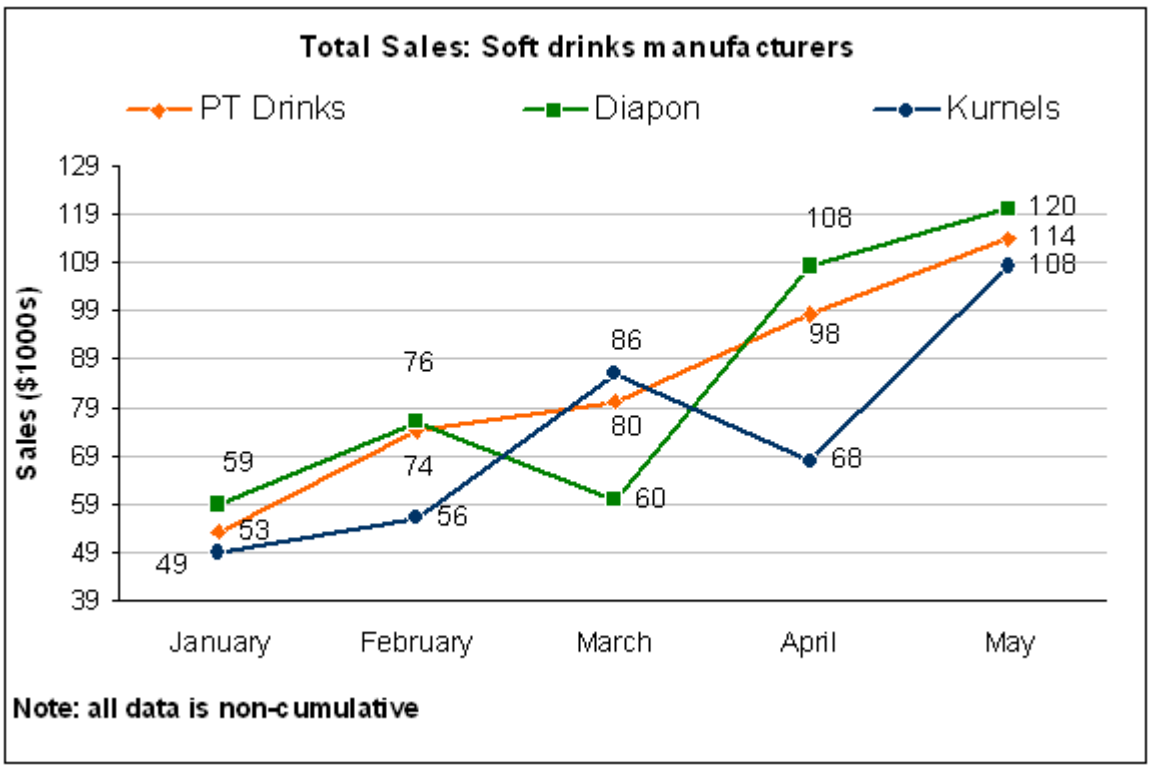
Q9 Between which months did Kurnels show the greatest change in its proportion of total sales?

(A) January - February
(B) February - March
(C) March - April
(D) April - May
(E) Can't tell from the data

Step 1 *– Calculate Kurnels sales as a proportion of total sales for each month*
January = 49 / (49 + 59 + 53) = 0.304
February = 56 / (74 + 76 + 56) = 0.272
March = 86 / (80 + 60 + 86) = 0.381
April = 68 / (98 + 108 + 68) = 0.248
May = 108 / (108 + 120 + 114) = 0.316

Step 2 *– Calculate the differences between consecutive months*
January – February = 0.032 decrease
February – March = 0.109 increase
March – April = 0.133 decrease
April – May = 0.068 increase

Thus the correct answer is (C) March - April



Q10 If the three soft drinks manufacturers experience the same proportional increases in sales between May-June as between April-May, what will be the combined sales for the three soft drinks manufacturers in June (to the nearest $1,000)?

(A) $133,000
(B) $171,000
(C) $410,000
(D) $437,000
(E) Can't tell from the data

Step 1 *– Calculate the proportional increase for each soft drinks manufacturer between April-May*
Kurnels: 108 ÷ 68 = 1.588 = 58.8% increase
Diapon = 120 ÷ 108 = 1.111 = 11.1% increase
PT Drinks = 114 ÷ 98= 1.163 = 16.3% increase

Step 2 *- Calculate the June sales for each soft drinks manufacturer*
Kurnels = 158.8% x 108 = 171,529
Diapon = 111.1% x 120,000 = 133,333
PT Drinks = 116.3% x 114,000 = 132,612

Step 3 *– Calculate the combined sales for the three soft drinks manufacturers in June*
171,529 + 133,333 + 132,612 = $437,474
To the nearest $1,000 = $437,000

Thus the correct answer is (D) $437,000

Share Price (£)	Yesterday's price	Today's Price	Highest Price (Figures for this month)	Lowest Price (Figures for this month)	Highest Price (Figures this year)	Lowest Price (Figures this year)
LPC Ltd	2.6	2.4	3.14	2.42	3.15	2.3
Hydro Tools	1.62	1.5	1.68	1.42	1.95	1.37
Gyromanic	3.1	3.28	3.99	2.59	4.52	2.51
Flyer Travel	2.27	2.5	3.43	2.1	3.96	2.05
Gel Products	1.9	1.72	2.1	1.6	2.28	1.45

Q11 A trader bought 150,000 shares in Hydro Tools at this month's low and 250,000 shares in Gel Products at this month's high. What is the trader's profit or loss if he sells all the shares at today's prices? (Assume that there are no dealing charges).

(A) £655,000 loss
(B) £120,500 loss
(C) £83,000 loss
(D) £120,500 profit
(E) £655,000 profit

Step 1 *– Calculate the cost of purchasing the 150,000 shares in Hydro Tools at this month's low*
150,000 x 1.42 = 213,000

Step 2 *- Calculate the cost of purchasing the 250,000 shares in Gel Products at this month's high*
250,000 x 2.10 = 525,000

Step 3 *– Calculate the sales value of 150,000 shares in Hydro Tools at today's price*
150,000 x 1.50 = 225,000

Step 4 *– Calculate the sales value of 250,000 shares in Gel Products at today's price*
250,000 x 1.72 = 430,000

Step 5 *– Calculate the profit/loss*
225,000 + 430,000 - 213,000 - 525,000 = - £83,000

Thus the correct answer is (C) £83,000 loss

Share Price (£)	Yesterday's price	Today's Price	Highest Price (Figures for this month)	Lowest Price (Figures for this month)	Highest Price (Figures this year)	Lowest Price (Figures this year)
LPC Ltd	2.6	2.4	3.14	2.42	3.15	2.3
Hydro Tools	1.62	1.5	1.68	1.42	1.95	1.37
Gyromanic	3.1	3.28	3.99	2.59	4.52	2.51
Flyer Travel	2.27	2.5	3.43	2.1	3.96	2.05
Gel Products	1.9	1.72	2.1	1.6	2.28	1.45

Q12 Yesterday, which share was the furthest from its yearly low in absolute terms?

(A) LPC Ltd
(B) Hydro Tools
(C) Gyromanic
(D) Flyer Travel
(E) Gel Products

Step 1 *– Calculate the difference between yesterday's share price and the yearly low for each share.*

LPC Ltd: 2.60 – 2.30 = 0.30
Hydro Tools: 1.62 – 1.37 = 0.25
Gyromanic: 3.10 – 2.51 = 0.59
Flyer Travel: 2.27 – 2.05 = 0.22
Gel Products: 1.90 – 1.45 = 0.45

Thus the correct answer is (C) Gyromanic

Share Price (£)	Yesterday's price	Today's Price	Highest Price (Figures for this month)	Lowest Price (Figures for this month)	Highest Price (Figures this year)	Lowest Price (Figures this year)
LPC Ltd	2.6	2.4	3.14	2.42	3.15	2.3
Hydro Tools	1.62	1.5	1.68	1.42	1.95	1.37
Gyromanic	3.1	3.28	3.99	2.59	4.52	2.51
Flyer Travel	2.27	2.5	3.43	2.1	3.96	2.05
Gel Products	1.9	1.72	2.1	1.6	2.28	1.45

Q13 How many shares of LPC Ltd and Flyer Travel Ltd can a trader buy today who spends £2.1 million and splits the value of the shares in the ratio of 2:5 respectively (ignoring any other taxes or charges incurred)?

(A) 350,000 shares (LPC Ltd), 500,000 shares (Flyer Travel Ltd)
(B) 300,000 shares (LPC Ltd), 504,000 shares (Flyer Travel Ltd)
(C) 250,000 shares (LPC Ltd), 600,000 shares (Flyer Travel Ltd)
(D) 200,000 shares (LPC Ltd), 500,000 shares (Flyer Travel Ltd)
(E) 150,000 shares (LPC Ltd), 600,000 shares (Flyer Travel Ltd)

Step 1 *– Split the £2.1 million in to the ratio of 2:5*
LPC Ltd: £2.1 million x 2/7 = £0.6 million
Flyer Travel Ltd: £2.1 million x 5/7 = £1.5 million

Step 2 *– Calculate the number of LPC Ltd shares*
£0.6 million / £2.40 = 250,000

Step 3 *– Calculate the number of Flyer Travel Ltd shares*
£1.5 million / £2.50 = 600,000

Thus the correct answer is (C) 250,000 shares (LPC Ltd), 600,000 shares (Flyer Travel Ltd)

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Hydro Tools	1.62	1.5	1.68	1.42	1.95	1.37
Gyromanic	3.1	3.28	3.99	2.59	4.52	2.51
Flyer Travel	2.27	2.5	3.43	2.1	3.96	2.05
Gel Products	1.9	1.72	2.1	1.6	2.28	1.45

Q14 How much would the loss be from buying 125,000 Gyromanic shares at this month's high, then selling all the shares at this month's low?

(A) £63,750
(B) £175,000
(C) £225,750
(D) £251,250
(E) None of these

Step 1 *– Calculate the cost of purchasing 125,000 Gyromanic shares at this month's high*
125,000 x 3.99 = £498,750

Step 2 *- Calculate the revenue from selling 125,000 Gyromanic shares at this month's low*
125,000 x 2.59 = £323,750

Step 3 *– Calculate the potential loss*
£498,750 - £323,750 = £175,000

Thus the correct answer is (B) £175,000

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Flyer Travel	2.27	2.5	3.43	2.1	3.96	2.05
Gel Products	1.9	1.72	2.1	1.6	2.28	1.45

Q15 Yesterday, Trader A spent £650,000 purchasing LPC Ltd shares and Trader B spent the same amount on Flyer Travel shares. If Trader A and Trader B each sold their entire shareholding today, what would be the difference in their respective profit or loss?

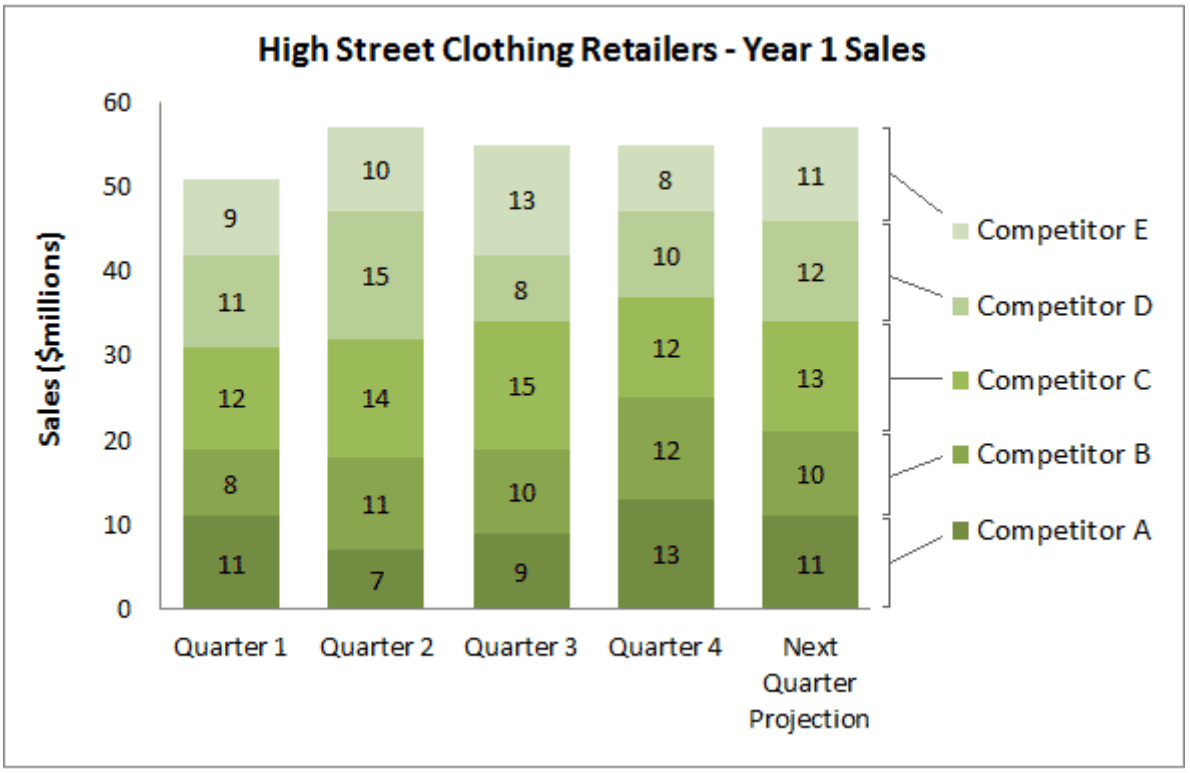
(A) Trader A £11,692 more
(B) Trader B £115,859 more
(C) Trader A £39,796 more
(D) Trader B £139,796 more
(E) Trader B £65,859 more

Step 1 *– Calculate the profit/loss for Trader A*
LPC Ltd: 2.4 x £650,000 / 2.6 = £600,00
£600,000 - £650,000 = £50,000 loss

Step 2 *- Calculate the profit/loss for Trader B*
Flyer Travel: 2.5 x £650,000 / 2.27 = £715,859
£715,859 - £650,000 = £65,859 profit

Step 3 *– Calculate the difference*
£65,859 + £50,000 = £115,859

Thus the correct answer is (B) Trader B £115,859 more



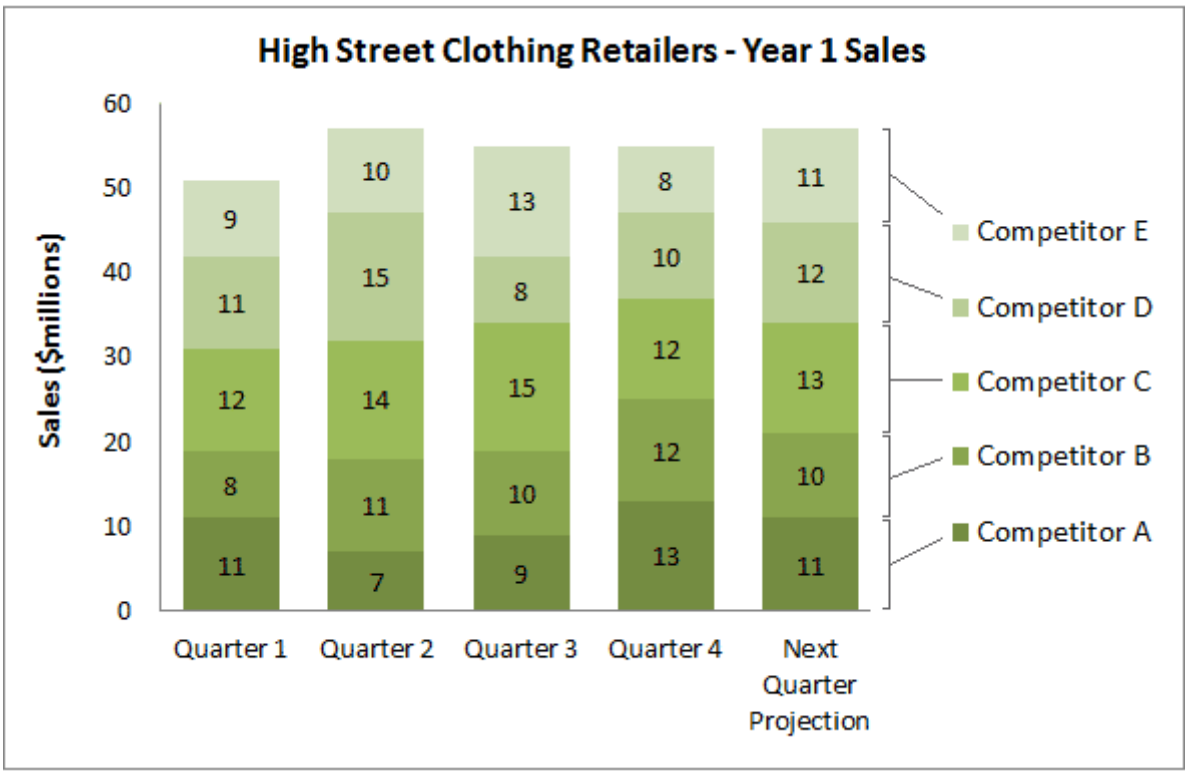
Q16 Which competitor, or competitors, are predicted in the Next Quarter to achieve sales of less than its average over Quarters 1-4?

(A) Competitor B
(B) Competitors B and C
(C) Competitors A and C
(D) Competitors C and D
(E) Competitor D

Step 1 *– Calculate the average for each competitor*
Competitor A: 40/4 = 10
Competitor B: 41/4 = 10.25
Competitor C: 53/4 = 13.25
Competitor D: 44/4 = 11
Competitor E: 40/4 = 10

Step 2 *– Which is greater than Next Quarter's predictions?*
Competitors B and C

Thus the correct answer is (B) Competitors B and C



Q17 Assuming that the Next Quarter's projection is accurate, but that in all subsequent Quarters sales drop by 5% each quarter, by how much will Competitor D's sales in Year 2 exceed those of Year 1 (to the nearest $10,000)?

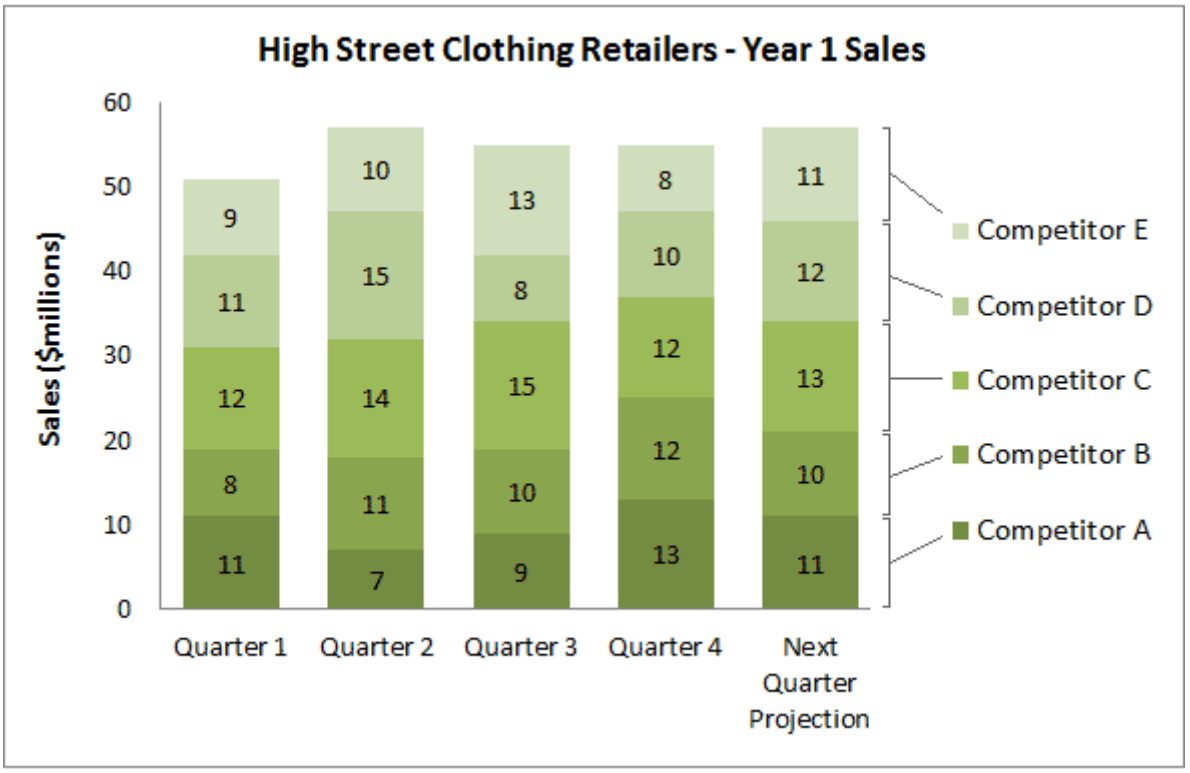
(A) $520,000
(B) $620,000
(C) $720,000
(D) $820,000
(E) $920,000

Step 1 *– Sum Competitor D's sales for Year 1*
11 + 15 + 8 + 10 = $44 million

Step 2 *- Calculate Competitor D's sales for Year 2*
12 + (12 x 0.95) + (12 x 0.95 x 0.95) + (12 x 0.95 x 0.95 x 0.95)
= 12 + 11.4 + 10.83 + 10.29
= $44.52 million

Step 3 *– Calculate the difference*
44.52 – 44 = 0.52 million

Thus the correct answer is (A) $520,000



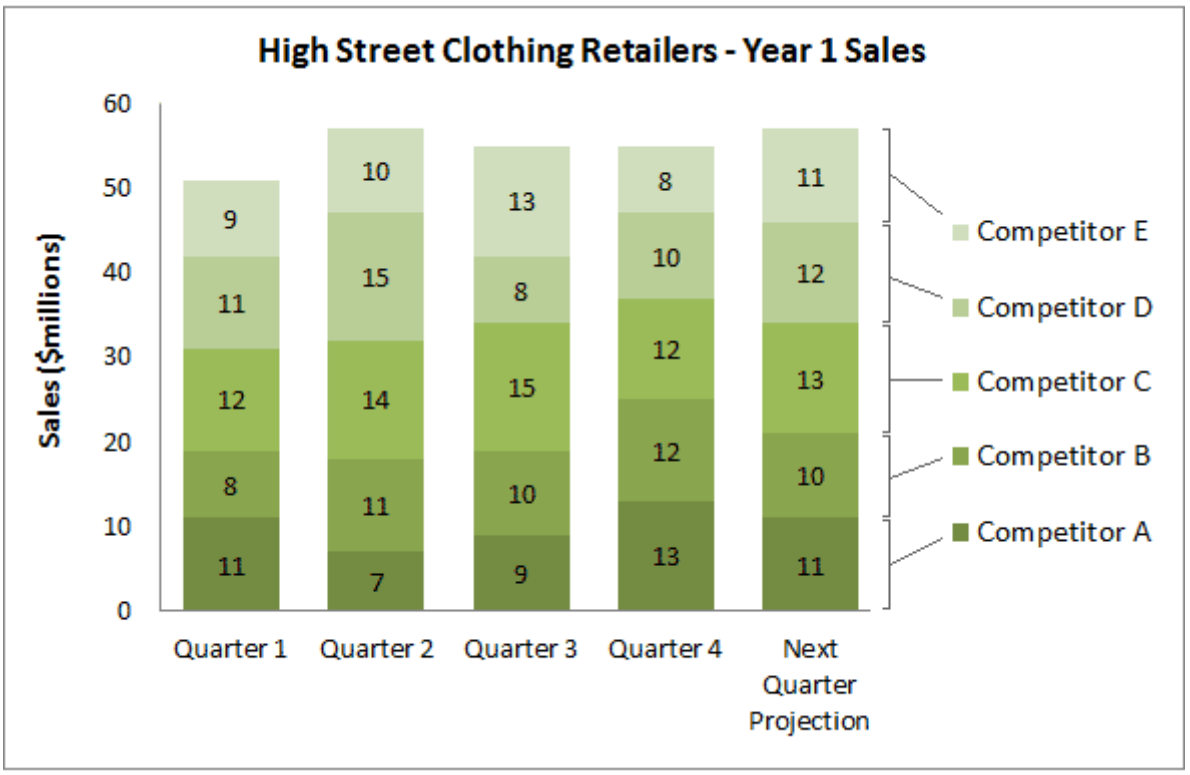
Q18 Competitor C operates 18 stores compared to Competitor E's 15 stores. How much more sales revenue would Competitor E have needed to make to match Competitor C's average sales per store in Quarter 1?

(A) $1 million
(B) $2 million
(C) $3 million
(D) $4 million
(E) $5 million

Step 1 *– Calculate Competitor C's average sales in Quarter 1*
12 / 18 = 0.67

Step 2 *– Calculate what Competitor E's sales would have needed to be in Quarter 1*
0.67 x 15 = 10
Additional sales = $1 million

Thus the correct answer is (A) $1 million



Q19 In the Next Quarter Competitors A and B merge their sales operations, and in response Competitors C and D decide to operate together. Competitors A and B exceed their projected quarterly sales by 2/9ths. Next Quarter's sales for Competitors C and D are in line with their averages over the previous 4 quarters. What is the value of the combined sales of Competitors A-E for the Next Quarter, to the nearest $million ? (Assume that Competitor E's projected sales for the next quarter are correct).

(A) $11 million
(B) $16 million
(C) $26 million
(D) $61 million
(E) Can't tell from data

Step 1 *– Calculate the value of Competitor A and B's sales*
21 + (21 x 2/9) = 25.67

Step 2 *- Calculate the average sale for Competitor C*
53 / 4 = 13.25

Step 3 *- Calculate the average sale for Competitor D*
44 / 4 = 11

Step 4 *- Calculate the total sales, including Competitor E*
25.67 + 13.25 + 11 + 11 = $60.92 million

Step 5 *– To the nearest $million = $61 million*

Thus the correct answer is (D) $61 million

Q20 Which competitor has a ratio of 4:5 Quarter 4 : Quarter 3 sales?

(A) Competitor A
(B) Competitor B
(C) Competitor C
(D) Competitor D
(E) Competitor E

Step 1 *– Calculate the ratios for each competitor*

Competitor A: 13 / 9 = 0.62
Competitor B: 12 / 10 = 1.25
Competitor C: 12 / 15 = 0.8 = 4 / 5
Competitor D: 10 / 8 = 1.20
Competitor E: 8 / 13 = 1.44

Thus the correct answer is (C) Competitor C

PRODUCT CODE	BEC 1A	BEC 5C	FLAC 3X	FLAC 9Y	FLAC 4T
Number of units sold	6,500	4,800	3,500	5,500	4,500
Number of units produced	9,000	6,500	5,200	6,800	6,000
PRODUCTION COSTS (£ per 100 units produced)					
Labour cost	180	172	160	150	164
Design cost	84	92	74	101	105
Misc costs	62	74	94	108	94
Sales price - per unit sold (£)	4.25	4.15	4.8	4.65	4.95

All Data Shown is for January

Q21 What was the difference in the value of FLAC product sales compared to BEC product sales?

(A) £14,650
(B) £17,105
(C) £27,545
(D) £47,545
(E) £64,650

Step 1 *– Calculate FLAC product sales*
(3,500 x £4.80) + (5,500 x £4.65) + (4,500 x £4.95)
= £16,800 + £25,575 + £22,275 = £64,650

Step 2 *– Calculate BEC product sales*
(6,500 x £4.25) + (4,800 x £4.15)
= £27,625 + £19,920
= £47,545

Step 3 *– Calculate the difference*
£64,650 - £47,545 = £17,105

Thus the correct answer is (B) £17,105

PRODUCT CODE	BEC 1A	BEC 5C	FLAC 3X	FLAC 9Y	FLAC 4T
Number of units sold	6,500	4,800	3,500	5,500	4,500
Number of units produced	9,000	6,500	5,200	6,800	6,000
PRODUCTION COSTS (£ per 100 units produced)					
Labour cost	180	172	160	150	164
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Sales price - per unit sold (£)	4.25	4.15	4.8	4.65	4.95

All Data Shown is for January

Q22 Which product code has the highest profit margin? (Assume Profit margin = Sales price – Production costs).

(A) BEC 1A
(B) BEC 5C
(C) FLAC 3X
(D) FLAC 9Y
(E) FLAC 4T

Step 1 *– Sum the 3 Production costs for each product code*

BEC 1A: 180 + 84 + 62 = 326
BEC 5C: 172 + 92 + 74 = 338
FLAC 3X: 160 + 74 + 94 = 328
FLAC 9Y: 150 + 101+ 108 = 359
FLAC 4T: 164 + 105 + 94 = 363

Step 2 *– Calculate the profit per unit for each product code*
Profit per unit = Sales value – production cost

BEC 1A: 4.25 – 3.26 = 0.99
BEC 5C: 4.15 – 3.38 = 0.77
FLAC 3X: 4.80 – 3.28 = 1.52
FLAC 9Y: 4.65 – 3.59 = 1.06
FLAC 4T: 4.95 – 3.63 = 1.32

Thus the correct answer is (C) FLAC 3X

PRODUCT CODE	BEC 1A	BEC 5C	FLAC 3X	FLAC 9Y	FLAC 4T
Number of units sold	6,500	4,800	3,500	5,500	4,500
Number of units produced	9,000	6,500	5,200	6,800	6,000
PRODUCTION COSTS (£ per 100 units produced)					
Labour cost	180	172	160	150	164
Design cost	84	92	74	101	105
Misc costs	62	74	94	108	94
Sales price - per unit sold (£)	4.25	4.15	4.8	4.65	4.95

All Data Shown is for January

Q23 What would have been the additional profit on BEC 5C units if all those that had been produced in January were sold?

(A) £27,625
(B) £25,428
(C) £15,655
(D) £11,700
(E) £7,055

Step 1 *– Calculate the difference between number of units produced and sold.*
6,500 – 4,800 = 1,700 units

Step 2 – Calculate the additional profit for 1,700 units
1,700 x £4.15 = £7,055

Thus the correct answer is (E) £7,055

Tip*: this is actually quite an easy question. Don't fall into the trap of working out the profit based on (sale price – production costs) because these extra 1,700 have already been produced. It is a sunk cost and therefore any sales are profit.*

PRODUCT CODE	BEC 1A	BEC 5C	FLAC 3X	FLAC 9Y	FLAC 4T
Number of units sold	6,500	4,800	3,500	5,500	4,500
Number of units produced	9,000	6,500	5,200	6,800	6,000
PRODUCTION COSTS (£ per 100 units produced)					
Labour cost	180	172	160	150	164
Design cost	84	92	74	101	105
Misc costs	62	74	94	108	94
Sales price - per unit sold (£)	4.25	4.15	4.8	4.65	4.95

All Data Shown is for January

Q24 If the labour, design and Misc costs for producing the FLAC 9Y decrease by 5%, 7.5% and 12.5% respectively, what will be the profit when selling 25,000 FLAC 9Y units?

(A) £116,250.50
(B) £85,442.00
(C) £48,296.25
(D) £33,642.50
(E) £19,450.50

Step 1 *– Calculate the new costs*
Labour: 95% x 150 = £142.50 per 100 units
Design: 92.5% x 101 = £93.43 per 100 units
Misc costs: 87.5% x 108 = £94.50 per 100 units

Step 2 *– Sum the new costs*
£142.50 + £93.43 + £94.50 = £330.43 per 100 units

Step 3 *– Calculate the sales value*
25,000 x 4.65 = £116,250

Step 4 *– Calculate the profit*
£116,250 – (£330.43 x 25,000 / 100) = £116,250 - £82,607.50 = £33,642.50

Thus the correct answer is (D) £33,642.50

PRODUCT CODE	BEC 1A	BEC 5C	FLAC 3X	FLAC 9Y	FLAC 4T
Number of units sold	6,500	4,800	3,500	5,500	4,500
Number of units produced	9,000	6,500	5,200	6,800	6,000
PRODUCTION COSTS (£ per 100 units produced)					
Labour cost	180	172	160	150	164
Design cost	84	92	74	101	105
Misc costs	62	74	94	108	94
Sales price - per unit sold (£)	4.25	4.15	4.8	4.65	4.95

All Data Shown is for January

Q25 An order valued at £14,350 is placed for FLAC 4T units at a sales price that is £0.85 below the norm. What is the profit on this order?

(A) £1,945
(B) £1,845
(C) £1,645
(D) £1,745
(E) Can't tell from data

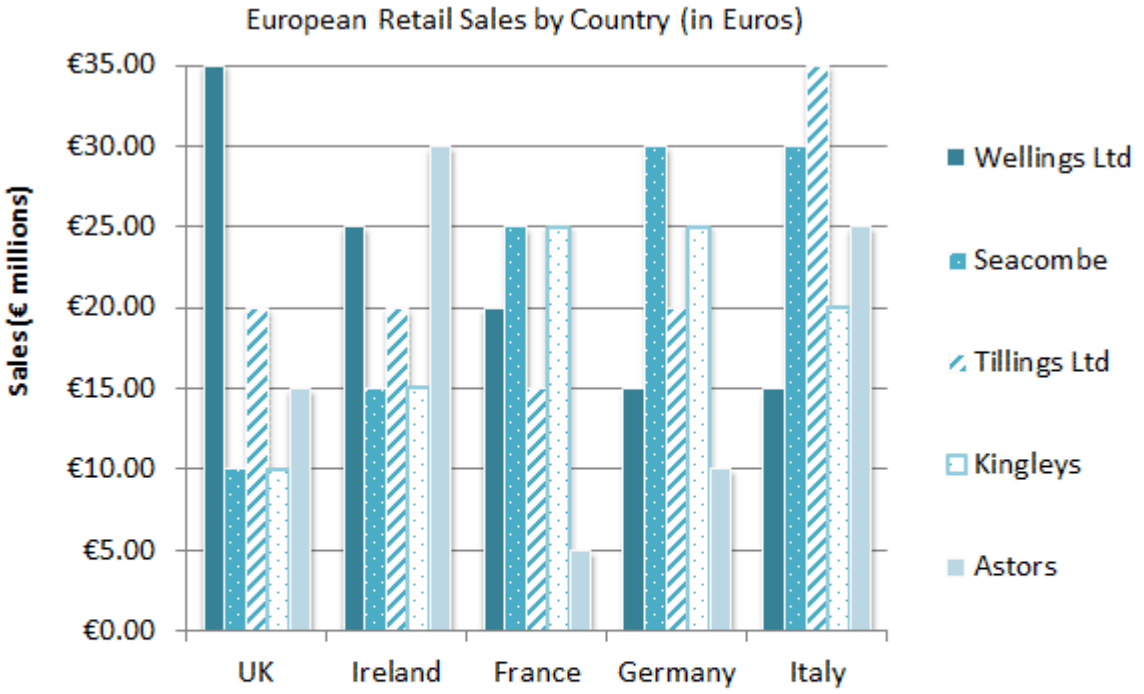
Step 1 *– Calculate the new FLAC 4T sales price*
£4.95 - £0.85 = £4.10

Step 2 *– Calculate the number of units sold*
£14,350 / £4.10 = 3,500

Step 3 *– Calculate the production costs*
3,500 x (164 + 105 + 94)/100 = £12,705

Step 4 *– Calculate the profit*
£14,350 - £12,705 = £1,645

Thus the correct answer is (C) £1,645



Number of Stores by Country	UK	Ireland	France	Germany	Italy
Wellings Ltd	5	4	3	4	3
Seacombe	7	6	6	5	5
Tillings Ltd	6	5	3	6	4
Kingleys	8	8	5	10	6
Astors	12	16	11	12	9

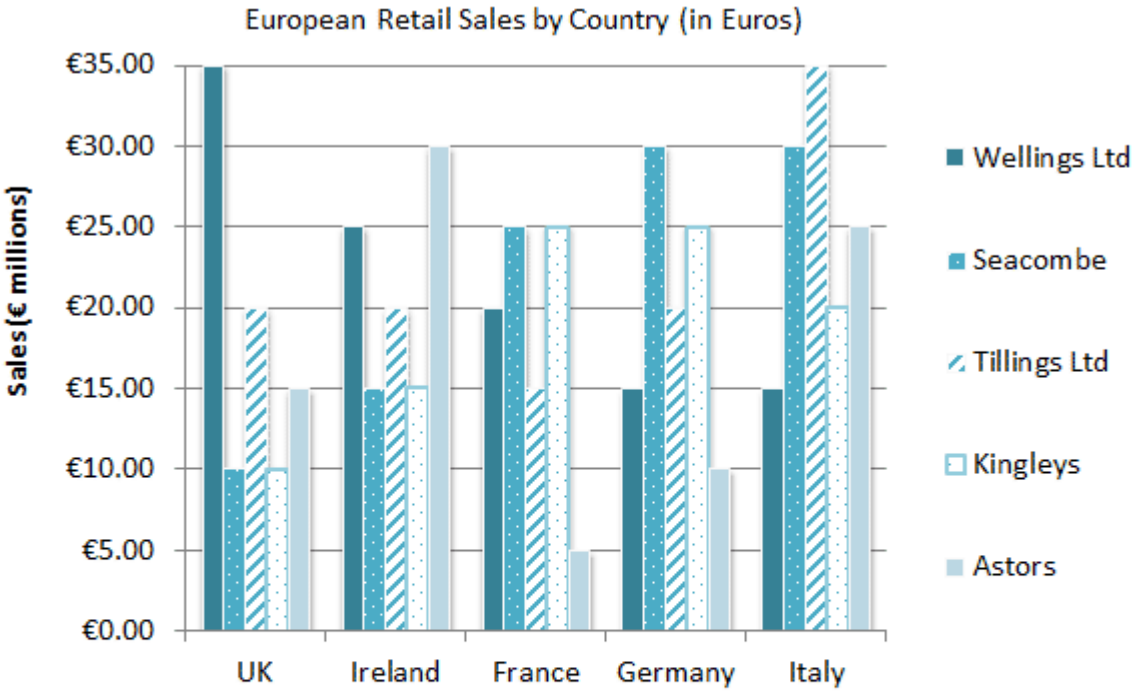
Q26 For the company which achieved the highest sales per number of their stores in France, what was their sales value across the five countries combined?

(A) €40 million
(B) €85 million
(C) €110 million
(D) €140 million
(E) €155 million

Step 1 *– Calculate the average sales per store in France*
Welllings: 20 / 3 = 6.67 ← Wellings achieved the highest sales per store
Seacombe: 25 / 6 = 4.18
Tillings Ltd: 15 / 3 = 5
Kingleys: 25 / 5 = 5
Astors: 5 / 11 = 0.45

Step 2 *– Sum the sales for Welllings across all five countries*
35 + 25 + 20 + 15 + 15 = €110 million

Thus the correct answer is (C) €110 million



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Kingleys	8	8	5	10	6
Astors	12	16	11	12	9

Q27 The economic recession is predicted to decrease the total retail sales in Germany, Ireland and Italy by 7.2%, 9% and 4.6% respectively. What total sales value is predicted in Germany, Ireland and Italy combined?

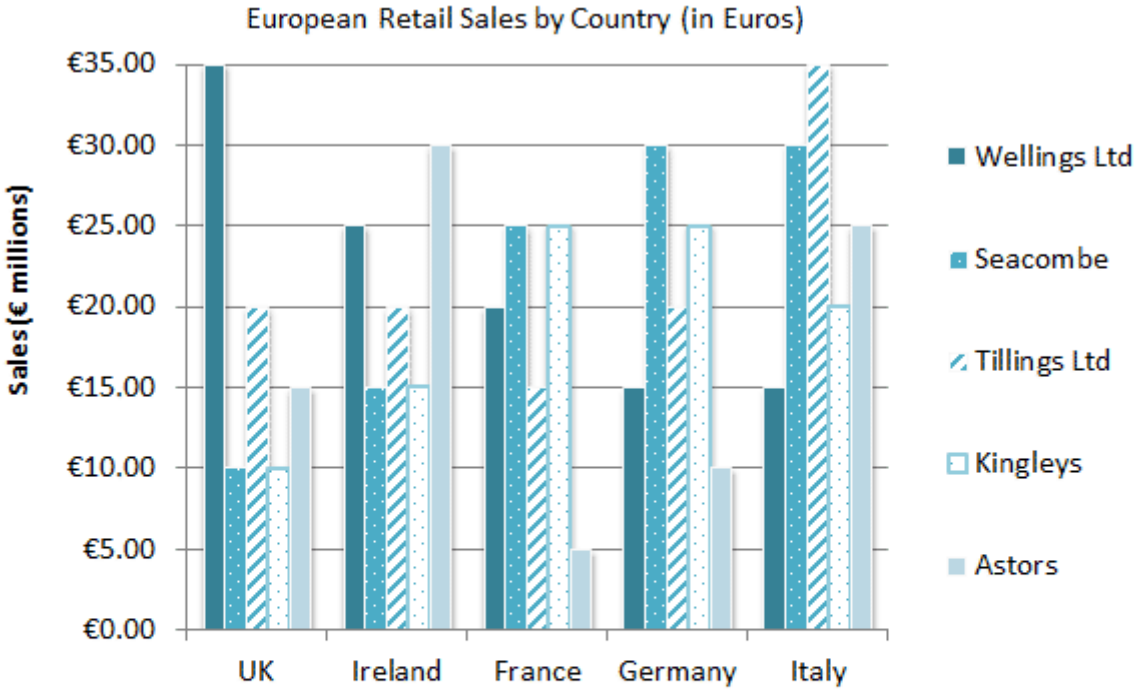
(A) €302.5 million
(B) €307.6 million
(C) €310.4 million
(D) €322.4 million
(E) €330.6 million

Step 1 *– Calculate the total sales for the 3 countries*
Germany: 15 + 30 + 20 + 25 + 10 = 100
Ireland: 25 + 15 + 20 + 15 + 30 = 105
Italy: 15 + 30 + 35 + 20 + 25 = 125

Step 2 *– Calculate the decreased sales for each of the 3 countries*
Germany: €100 x 92.8% = 92.8
Ireland: €105 x 91% = 95.55
Italy: €125 x 95.4% = 119.25

Step 3 *– Sum the decreased sales for each of the 3 countries*
92.8 + 95.55 + 119.25 = 307.60

Thus the correct answer is (B) €307.6 million



Number of Stores by Country	UK	Ireland	France	Germany	Italy
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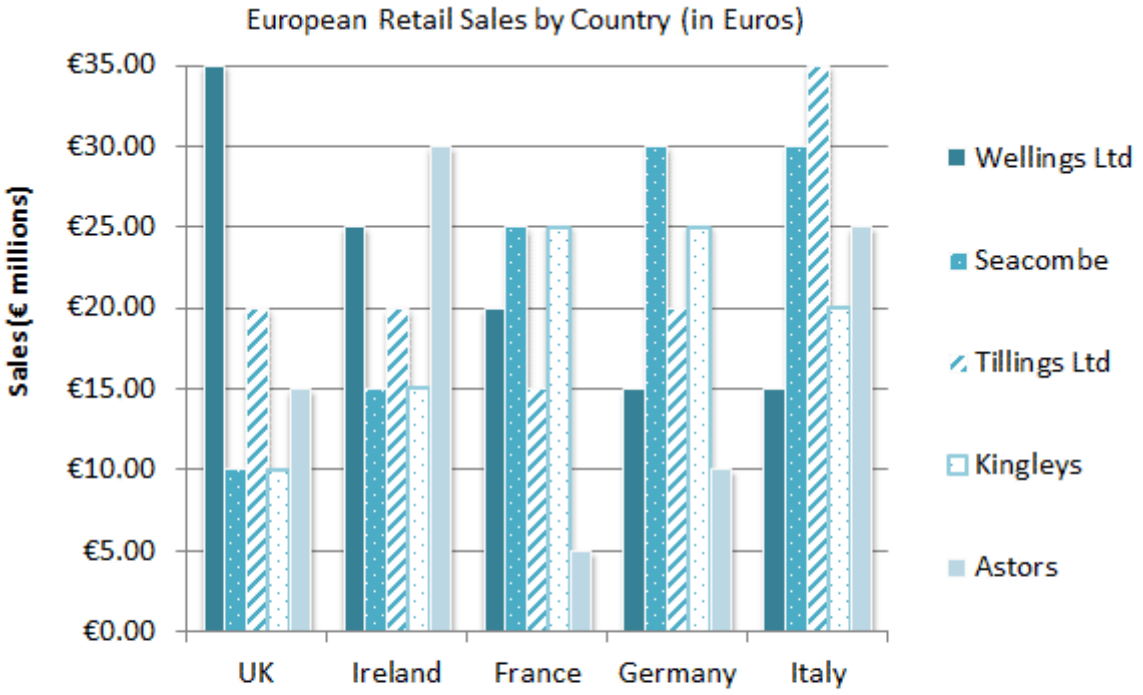
Seacombe	7	6	6	5	5
Tillings Ltd	6	5	3	6	4
Kingleys	8	8	5	10	6
Astors	12	16	11	12	9

Q28 Which two countries have the same average sales across the five retail companies?

(A) UK, Ireland
(B) Ireland, France
(C) Italy, Germany
(D) Germany, UK
(E) France, UK

Step 1 *– Calculate the total sales per country (this will give you the country with the "highest average sales per country" since each figure will need to be divided by 5)*
UK: 35 + 10 + 20 + 10 + 15 = 90
Ireland: 25 + 15 + 20 + 15 + 30 = 105
France: 20 + 25 + 15 + 25 + 5 = 90
Germany: 15 + 30 + 20 + 25 + 10 = 100
Italy: 15 + 30 + 35 + 20 + 25 = 125

Thus the correct answer is (E) France, UK



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Tillings Ltd	6	5	3	6	4
Kingleys	8	8	5	10	6
Astors	12	16	11	12	9

Q29 What would be the value of the UK and the French sales in £ (assume an exchange rate of €1.25 to the £)?

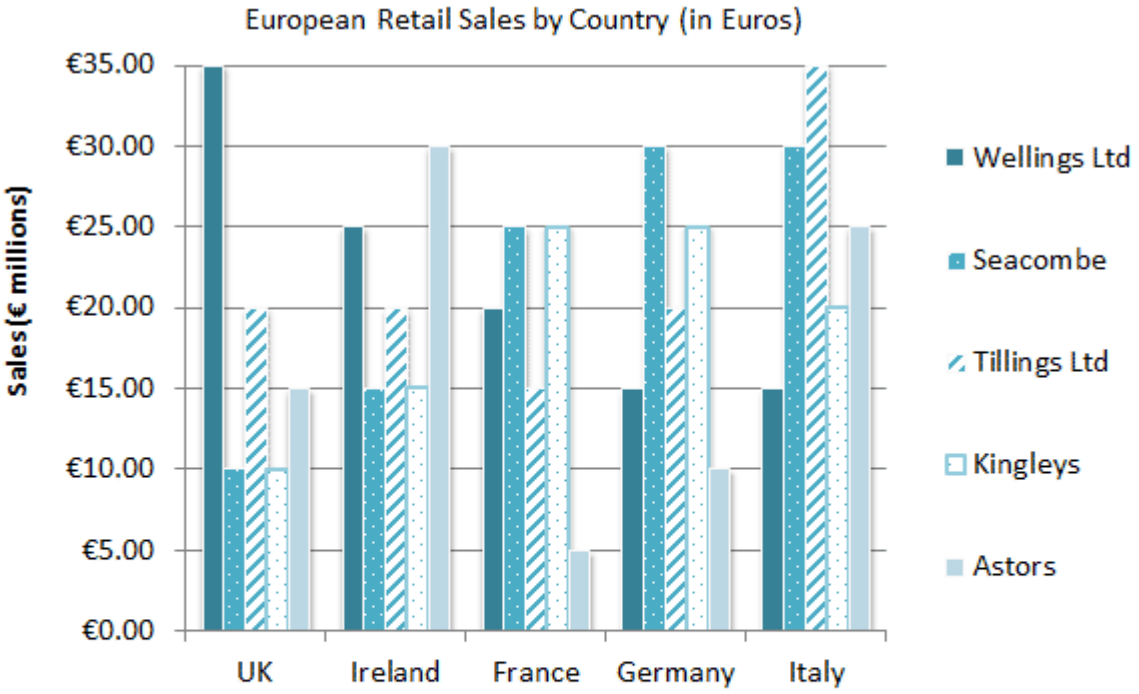
(A) £144 million
(B) £112.5 million
(C) £80 million
(D) £72 million
(E) £60 million

Step 1 *– Calculate the UK sales*
35 + 10 + 20 + 10 + 15 = 90

Step 2 *- Calculate the French sales*
20 + 25 + 15 + 25 + 5 = 90

Step 3 *– Convert the total into £*
180 / 1.25 = £144 million

Thus the correct answer is (A) £144 million



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Astors	12	16	11	12	9

Q30 Wellings Ltd sells off its Italian stores and then takes over Seacombe's stores except those in Ireland. The merged Wellings Seacombe Ltd sets a target to increase total sales across the European stores by 20% a year for the next three years. What will the total sales be in three years' time (to the nearest million)?

(A) £33 million
(B) €190 million
(C) £290 million
(D) £328 million
(E) £382 million

Step 1 *– Calculate the total sales for the Wellings Seacombe Ltd operation*
Wellings (UK, Ireland, France, Germany) = 35 + 25 + 20 + 15 = 95
Seacombe (UK, France, Germany, Italy) = 10 + 25 + 30 + 30 = 95
Total sales = €190 million

Step 2 *– Calculate the increase in sales over the next 3 years*
€190 million x 1.2 x 1.2 x 1.2 = £328.32 million

Step 3 *– To the nearest million = £328 million*

Thus the correct answer is (D) £328 million

-- End of Test --