Numerical Reasoning - (17 minutes)

There are 20 questions in this test and you should answer as many as you can.

Study the chart and answer the questions below it.

### Lead Generation Campaign Success

<table>
<thead>
<tr>
<th>Method</th>
<th>2003</th>
<th>2004</th>
</tr>
</thead>
<tbody>
<tr>
<td>Radio Advertising</td>
<td>10%</td>
<td>20%</td>
</tr>
<tr>
<td>Direct Mail</td>
<td>8.5%</td>
<td>17.5%</td>
</tr>
<tr>
<td>Newspaper Advertising</td>
<td>10%</td>
<td>15%</td>
</tr>
<tr>
<td>Telemarketing</td>
<td></td>
<td>20%</td>
</tr>
<tr>
<td>eMarketing</td>
<td></td>
<td>25%</td>
</tr>
</tbody>
</table>

**Question 1**

If Direct Mail generated 27,200 leads in 2003, how many were generated by Radio Advertising that year?

A. 5000
B. 32000
C. 46000
D. 64000
E. 128000

Correct answer: B

**Explanation**

% of direct mail = 8.5
Let total amount of lead generated = x
8.5% of x = 27200
X = 320,000
Radio advertising equals 10% of total leads generated
= 10% of 320,000 = 32,000.

**Question 2**
If eMarketing generated 100,000 leads in 2004 (an increase of 25% from 2003), how many leads were generated by Newspaper Advertising in 2003?

A. 48000
B. 52500
C. 54050
D. 56000
E. 65000

Correct answer: B

**Explanation**
Leads generated by e-marketing in 2003 = (100% - 25%) x 100,000
= 75,000
Therefore leads generated by newspaper advertising in 2003
= (17.5%/25%) x 75,000 = 52,500
Alternatively
25% of x = 75,000
X = (75,000 x 100)/25
= 300,000
Since newspaper advertising for 2013 = 17.5%
=> 17.5/100 x 300,000 = 52,500

**Question 3**
If the number of leads generated by Direct Mail in 2004 was half that generated by eMarketing in 2003, when eMarketing accounted for 80,000 leads, how many did Telemarketing generate in 2004?

A. 128000
B. 160000
C. 200000
D. 400000
E. 640000

Correct answer: B

**Explanation**
Leads generated by e marketing in 2003 = 80,000
Therefore leads generated by direct mail in 2004 = 40,000
Percentage of leads generated by direct mail in 2004 = 10%
Let total mail generated in 2004 be x
Hence 10% of x = 40,000
X = 400,000
percentage generated by telemarketing = 40%
Therefore leads generated by telemarketing = 40% x 400,000 = 160,000
Alternatively
leads generated by telemarketing = 40/10 x 40,000 = 160,000(This method is shorter and saves time).

Question 4
If in 2004 the number of leads generated was 15% higher overall, and Radio Advertising generated 46,000, how many would Newspaper Advertising have generated?

A. 39000  
B. 58000  
C. 69000  
D. 72000  
E. 75000

Correct answer: C

Explanation
If radio advertising generated 46,000, Newspaper will generate
0.15 x 46,000 = 69,000
Study the chart and answer the questions below it.

**Question 5**
Approximately what share of the total revenue for the five years displayed was generated in 2004?

A. 18%
B. 35%
C. 52%
D. 70%
E. Cannot say

Correct answer: B

**Explanation**
Total Revenue for the five years = $1,290m (Both direct and 3rd party booking).
Revenue for 2004 = $450m
Share of 2004 = (450/1290) x 100
= 35%

**Question 6**
Approximately what share of the 2002 web-based revenue was generated by 3rd Party Bookings?
A. 10%
B. 20%
C. 30%
D. 40%
E. 50%

**Correct answer:** C

**Explanation**
Total web based revenue for 2002 = 33m
Web based revenue generated by 3rd part booking = 10.5m
Share of web bases revenue generated by 3rd party booking = 10.5m/33m x 100 = 31.8%. This is approximately 30%

**Question 7**
By how much would the total 3rd Party Bookings in 2004 have to be increased to generate the same revenue from web-based bookings as was made via the Direct Bookings route? (Assume the Total to Web-based bookings ratio remains the same for both routes).

A. 352
B. 450
C. 525
D. 630
E. None of these

**Correct answer:** C

**Explanation**
If the total to web-based bookings ratio remains the same, considering 3rd party booking, the ratio of 1:10 will remain constant.
Increasing the total booking to 525 implies a 225 increase. This corresponds to 22.5 increase of web-based booking for same year (bearing in mind that the 1:10 is constant).
Study the table and answer the questions below it.

![Maintenance Costs Table](image)

**Question 8**
Averaged across the Manufacturing Plants, put the average values for each of the maintenance costs in decreasing size order, starting with the highest.

A. Servicing, Administration, Misc., Rent, Insurance, Utilities  
B. Servicing, Administration, Rent, Misc., Utilities, Insurance  
C. Servicing, Administration, Rent, Misc., Insurance, Utilities  
D. Servicing, Administration, Misc., Rent, Utilities, Insurance  
E. None of these

Correct answer: A

**Explanation**  
Averaging and arranging the maintenance cost in descending order we have Servicing, Administration, Misc., Rent, Insurance, Utilities

**Question 9**  
For which manufacturing plant(s) are the Administration: Rent costs in the ratio 12:5?

A. Bordeaux  
B. Berlin  
C. Midlands and Glasgow  
D. Berlin and Midlands  
E. Glasgow and Bordeaux

Correct answer: E

**Explanation**  
Solving from one plant to another we have the Administration: Rent costs ratios as follows
Mainlands 650: 300 = 2.16: 1 = 10.8: 5
Bordeaux: 600:250 = 2.4: 1 = 12: 5
Berlin: 450: 275 = 1.6: 1 = 8.2: 5
Amsterdam = 525:350 = 1.5: 1 = 7.5: 5
Glasgow = 720: 300 = 2.4: 1 = 12: 5
Clearly the Administration: Rent costs ratios of Bordeaux and Glasgow is 12: 5

**Question 10**
For the Glasgow manufacturing plant, which maintenance cost(s) represent approximately 7% of the total costs?

A. Rent and Utilities
B. Rent
C. Utilities
D. Insurance
E. Insurance and Utilities

Correct answer: E

Explanation
Total Maintenances cost for Glasgow = 2704
Utilities = 189/2704 x 100 = 7%
Rent = 300/2704 x 100 = 11%
Insurance = 195/2704 x 100 = 7.2 %-approximately 7%
Correct answer therefore is Insurance and Utilities.

**Question 11**
What is the average annual cost for servicing each of the 5 manufacturing plants (assume 4 weeks in a month)?

A. £3,300
B. £12,400
C. £16,500
D. £39,600
E. £48,000

Correct answer: E

Explanation
Average weekly servicing cost = (1050 + 1100 + 950 + 1025 + 875)/5 = 1000
Assuming there are 4 weeks in a month, then we have 48 weeks in a year.
Hence Average annual servicing cost = 1000 x 48 = 48,000

**Question 12**
Which two manufacturing plants have the same total maintenance costs per week?
A. Midlands and Glasgow  
B. Bordeaux and Glasgow  
C. Bordeaux and Amsterdam  
D. Midlands and Amsterdam  
E. None of these

Correct answer: E

Explanation
The maintenance cost of the manufacturing plants is as follows:
Mainlands = 2816  
Bordeaux = 2790  
Berlin = 2451  
Amsterdam = 2799  
Glasgow = 2704
Hence no two have the same maintenance cost.

Study the table and answer the questions below it.

<table>
<thead>
<tr>
<th>Intensity</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
</tr>
</thead>
<tbody>
<tr>
<td>40 - 72</td>
<td>150</td>
<td>200</td>
<td>167</td>
<td>101</td>
</tr>
<tr>
<td>73 - 112</td>
<td>89</td>
<td>98</td>
<td>103</td>
<td>76</td>
</tr>
<tr>
<td>113 - 157</td>
<td>71</td>
<td>99</td>
<td>78</td>
<td>65</td>
</tr>
<tr>
<td>158 - 206</td>
<td>70</td>
<td>82</td>
<td>79</td>
<td>55</td>
</tr>
<tr>
<td>Total</td>
<td>380</td>
<td>479</td>
<td>427</td>
<td>297</td>
</tr>
</tbody>
</table>

Question 13
What is the ratio of the number of tornados in 2008 to those in 2005?

A. 1.36:1  
B. 1:1.28  
C. 0.78:1  
D. 1.26:1  
E. 3.1:2

Correct answer: B

Explanation
Number of tornados in 2008 to those in 2005 is
= 297: 380
= 1: 1.28

**Question 14**
By what percentage did the number of tornados increase between 2005 and 2006?

- A. 79%
- B. 26%
- C. 126%
- D. 99%
- E. 44%

**Correct answer:** B

**Explanation**
Tornados in 2006 = 479
Tornados in 2005 = 380
Increase between 2005 and 2006 = \((479 - 380)/380 \times 100\)
= 26%

**Question 15**
What percentage of the tornados in 2007 had an intensity of 73-112?

- A. 24%
- B. 39%
- C. 20%
- D. 25%
- E. 18%

**Correct answer:** A

**Explanation**
2007 tornado with intensity of 73-112 = 103
Total tornados in 2007 = 427
% of tornados in 2007 that had an intensity of 73-112 = \((103/427) \times 100\)
= 24%
Study the table and answer the questions below it.

### Household & Transport Details 2004

<table>
<thead>
<tr>
<th></th>
<th>Kervile</th>
<th>Old Calfdown</th>
<th>Amber Hill</th>
<th>Canning Turn</th>
<th>Kinsop</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total No. Vehicles</td>
<td>54,442</td>
<td>77,009</td>
<td>16,470</td>
<td>42,000</td>
<td>64,561</td>
</tr>
<tr>
<td>Households with 2 or more vehicles</td>
<td>16,353</td>
<td>19,374</td>
<td>8,235</td>
<td>12,987</td>
<td>17,756</td>
</tr>
<tr>
<td>Approximate Ratio (Households: Vehicles)</td>
<td>2.1:1</td>
<td>2.8:1</td>
<td>2.5:1</td>
<td>2.1:1</td>
<td>2.2:1</td>
</tr>
</tbody>
</table>

**Question 16**
How many households were there in Canning Turn in 2004?

A. 20000  
B. 60927  
C. 88200  
D. 115472  
E. Cannot say

**Correct answer:** C

**Explanation**
In 2004, the approximate ratio of households to vehicles in Canning town is 2.1:1.
Total number of vehicles in Canning town = 42,000
Therefore number of households in Canning town = \(42,000 \times 2.1\)  
= 88,200

**Question 17**
What was the percentage of households who had 2 or more vehicles relative to the total number of households in Kinsop?

A. 12.5%  
B. 17.5%  
C. 22.5%  
D. 27.5%  
E. Cannot say

**Correct answer:** A

**Explanation**
Ratio of households to vehicles in Kinsop = 2.2:1
Total number of vehicles = 64,651
Total number of households is therefore
64651 x 2.2 = 142,232.2
Households with two or more vehicles is 17,756
percentage of households who had 2 or more vehicles
relative to the total number of households in Kinsop =
(17,756/142,232.2) x 100
= 12.5%

Question 18
In which town was the percentage of households with 2 or more vehicles the largest, relative to
the total number of vehicles in that town?

A. Kenville
B. Old Catdown
C. Amber Hill
D. Canning Turn
E. Kinsop

Correct answer: C

Explanation
Divide the total number of households with two or more vehicles in each town by the total
number of vehicles in that town and take the percentage. You will notice that Amber hill has the
highest ratio, ie
(8235/16470) x 100 = 50%

Question 19
What is the percentage difference between Kinsop and Amber Hill in terms of the total number
of households

A. 22%
B. 24%
C. 26.5%
D. 30%
E. 32%

Correct answer: B

Explanation
Total number of households in Kinsop = 2.2 x 64561 = 142,034
Total number of households in Amber hill = 2.5 x 16470 = 41,175
Percentage difference = (142,034 - 41175)/41175 x 100
= 24%
Study the table and answer the questions below it.

<table>
<thead>
<tr>
<th>Company Figures at the end of the current financial year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hardlow plc</td>
</tr>
<tr>
<td>------------</td>
</tr>
<tr>
<td>Turnover (£m*)</td>
</tr>
<tr>
<td>Profit (£m*)</td>
</tr>
<tr>
<td>Assets (£m*)</td>
</tr>
<tr>
<td>Debt (£m*)</td>
</tr>
<tr>
<td>Share Price (pence)</td>
</tr>
<tr>
<td>No. of shares (m*)</td>
</tr>
</tbody>
</table>

**Question 20**
If someone were to sell 3,500 shares in Hardlow plc, how many shares of Aurore could they buy with the proceeds from that sale?

A.  2217  
B.  5260  
C.  7761  
D.  15782  
E.  35000

Correct answer: C

**Explanation**
Share price of Hardlow plc = 108
Therefore 3500 shares = 378,000 pence
Share price of Aurore = 48.7
378,000 can purchase 378,000/48.7 shares of Aurore
= 7,761 shares.
Numerical Reasoning - (17 minutes)

There are 20 questions in this test and you should answer as many as you can.

Study the table and answer the questions below it.

<table>
<thead>
<tr>
<th>Operating Performance for International Paper Goods (IPG)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net sales</td>
</tr>
<tr>
<td>Cost of goods sold</td>
</tr>
<tr>
<td>Sales margin</td>
</tr>
<tr>
<td>Fixed costs</td>
</tr>
<tr>
<td>Operating cash flow</td>
</tr>
</tbody>
</table>

**Question 1**
The average annual growth rate in Net Sales for the industry from 1995 onwards was 20%. By how many EUR did the Net Sales of IPG exceed the industry average by 1997?

A. 320m
B. 324m
C. 328m
D. 332m
E. None of these

**Correct answer:** E

**Explanation**
Industry average for 1995 = 1600
Growth rate = 20%
In 1996, Industry average net sale = 1600 x 1.2 = 1920
In 1997, it is 1920 x 1.2 = 2304
The net sale for IPG exceeds industry average by 2568 - 2304 = 264
Hence none of these is the right answer
**Question 2**
What was the average annual percentage growth in Net Sales for 1999 and 2000?

A. 3.2%
B. 4.4%
C. 5.6%
D. 6.8%
E. 7.9%

Correct answer: E

**Explanation**
Net sale of 1999 = 2508
Net sale for 2000 = 2709
% growth = (2709 - 2508)/2508
= 7.9%

---

**Study the table and answer the questions below it.**

<table>
<thead>
<tr>
<th>Demographic and Infrastructure Information</th>
<th>South Africa</th>
<th>Australia</th>
<th>Argentina</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population (m)</td>
<td>36.5</td>
<td>19.2</td>
<td>35.6</td>
</tr>
<tr>
<td>GNP (in USA $m)</td>
<td>122,675</td>
<td>315,500</td>
<td>227,500</td>
</tr>
<tr>
<td>Economically Active Pop. (%)</td>
<td>36.10</td>
<td>50.10</td>
<td>39.00</td>
</tr>
<tr>
<td>Urban: Rural Pop. (%)</td>
<td>61.1: 38.9</td>
<td>86.0: 14.0</td>
<td>86.4: 13.6</td>
</tr>
<tr>
<td>Telephones (m)</td>
<td>3.82</td>
<td>8.51</td>
<td>4.35</td>
</tr>
<tr>
<td>Vehicles-Cars (m)</td>
<td>3.5</td>
<td>8.1</td>
<td>4.1</td>
</tr>
<tr>
<td>Vehicles-Trucks &amp; Buses (m)</td>
<td>1.9</td>
<td>2.0</td>
<td>1.6</td>
</tr>
<tr>
<td>Total Road Length (m of Km)</td>
<td>0.19</td>
<td>0.82</td>
<td>0.22</td>
</tr>
</tbody>
</table>

m = millions

---

**Question 3**
If 90% of cars in Argentina are owned by urban dwellers, what percentage of urban dwellers own cars (assuming a maximum of one car per person)?
A. 0.22%
B. 2.23%
C. 5.85%
D. 12%
E. 16.42%

Correct answer: D

Explanation
Total number of vehicle cars = 1.1m
Urban dwellers own (90/100) x 4.1m = 3.69m cars
Ratio of urban to rural = 86.4 : 13.6
Total pop = 35.6
Urban dwellers = (86.4/100) x 35.6 = 30.76m
% of urban dwellers with cars = (3.6m/30.76m) x 100
= 12%

Study the chart and answer the questions below it.

Tinco plc, Annual Expenditure by Division
2008 - £4,000,000

Tinco plc, Annual Expenditure by Division
2007 - £3,400,000

Question 4
What was the total expenditure of mining and logistics in 2007?

A. £884,000
B. £10,800,000
C. £1,258,000
D. £918,000
E. £91,800

Correct answer: C
**Explanation**
Total 2007 expenditure = 3,400,000
Mining = 19% of 3,400,000 = 646,000
Logistics = 18% of 3,400,000 = 612,000
646,000 + 612,000
= 1,258,000

**Question 5**
What was the percentage increase in the cost of exploration from 2007 to 2008?

A. 71%
B. 69%
C. 70%
D. 72%
E. Cannot Say

**Correct answer:** A

**Explanation**
Cost of exploration in 2007 = 0.2 x 3,400,000
= 680,000
Cost of exploration in 2008 = 0.29 x 4m
= 1,160,000
% increase = (1,160,000 - 680,000)/680,000 x 100
= 71%

**Question 6**
What was the percentage decrease in the cost of mining from 2007 to 2008?

A. 41.32%
B. 34.58%
C. 25.7%
D. 23.5%
E. 28%

**Correct answer:** C

**Explanation**
Cost of mining in 2007 = 0.19 x 3,400,000
= 646,000
Cost of mining in 2008 = 0.12 x 4,000,000 = 480,000
% decrease = (646,000 - 480,000)/646,000
= 25.7%
**Question 7**
In 2009 an additional £100,000 will be spent on exploration. If total annual expenditure increases by 8%, what proportion of overall expenditure will exploration account for?

A. 29.7%
B. 31.31%
C. 38.43%
D. 30.3%
E. Cannot Say

**Correct answer: B**

**Explanation**
If total expenditure increased by 8%, the new total expenditure =

\[ 1.08 \times 4,000,000 \]

= 4,320,000

Percentage spent on exploration in 2008 = 29%

Proportion spent on exploration = \( \frac{0.29 \times 4320000}{4320000} + \frac{100000}{4320000} \)

= 0.3131 = 31.31%

--

**Study the graph and answer the questions below it.**

![Annual Production of Vehicles in UK '000](image)

**Question 8**
What was the percentage decrease in production of vehicles by Nissan from 2004 - 2008?

A. 32.42%
B. 38.32%
C. 33.33%
D. 30%
E. 40%

Correct answer: C

Explanation
Vehicles produced in 2008 = 20,000
In 2004 = 30,000
(30,000 -20,000)/30,000 x 100
= 33.3%

Question 9
If Ford production decreased by 20% in 2009 how many vehicles would be produced in that year?

A. 28000
B. 280000
C. 2800000
D. 420000
E. 400000

Correct answer: A

Explanation
2008 ford production = 35,000
20% decrease = (1-0.02) x 35,000
= 28,000

Question 10
If all four car manufacturers consistently annually accounted for 23% of annual vehicle production in the UK, how many vehicles in total were produced in the UK in 2006 to the nearest '000 (thousand)?

A. 337000
B. 775000
C. 336000
D. 178000
E. 170000

Correct answer: A

Explanation
Cars produced in 2006 by the four companies is 77,500
Let the total number of cars produced in the whole of UK in 2006 be k
23/100 x k = 77,500
K = 336,956
337,000 = to the nearest thousand
**Question 11**
If the percentage increase in production of vehicles by Ford between 2007 and 2008 were repeated annually how many years would it be before Ford produced at least 5,800,000 vehicles in the UK?

A. 5  
B. 4  
C. 3  
D. 2  
E. 1  

**Correct answer:** B

**Explanation**
% increase of vehicles produced by Ford btw 2007 and 2008  
= \( \frac{35,000 - 30,000}{30,000} \times 100 = 16.7\% \)

If this is repeated annually, then a year later, we have
\( (1 + 0.167)(35,000) = 40,950 \)
2 yrs later = 47,911.5
3 years later = 56,056.5
4 years later = 65,586.1
Ans is 4 years.

*Study the chart and answer the questions below it.*

![Annual Air Traffic Chart](chart.png)
**Question 12**
The average distance flown per passenger departing within Europe 5 years ago was 1,000km. Today this figure has decreased by 20%. By how many percent has the total distance travelled by flights depart in Europe changed today?

A. 30% decrease  
B. 15% decrease  
C. No change  
D. 120% increase  
E. 140% increase

**Correct answer:** E

**Explanation**  
Total distance flown by all passengers within Europe 5 years ago = 0.3 x 1000 = 300  
Total distance flown today = 0.9 x 0.8 = 720  
% increase = (720 -300)/300 x 100  
= 140% increase

**Question 13**  
What is the percentage increase in global passenger air traffic over the past five years?

A. 37%  
B. 47%  
C. 57%  
D. 67%  
E. None of these

**Correct answer:** D

**Explanation**  
(Total passenger today -total passenger 5 yrs ago)/total passengers 5 yrs ago  
= (3.5 -2.1)/2.1 = 67%

**Question 14**  
If the increase in global passenger air traffic continues at the current rate, approximately how many annual air passengers (billions) will there be in 5 years time?

A. 0.583b  
B. 0.539b  
C. 5.83b  
D. 53.9b  
E. None of these

**Correct answer:** C
Explanation
Current rate = 67% (from previous question)
Number of passengers = 3.5b
In 5 years time, we have
\[1.67 \times 3.5b = 5.83b\]

Study the chart and answer the questions below it.

**Question 15**
How many more Euros operating profit did Greenco generate per Water Company in 2000 than in 1994?

A. EUR 54,000  
B. EUR 108,000  
C. EUR 216,000  
D. EUR 432,000  
E. None of these  

Correct answer: B

**Explanation**
Operating profit generated per water company in 1994 =
- \(0.2/25 = 0.008m\)
In 2000, 2.0m/20 = 0.1m
= 0.1 + 0.008 = 0.108m
= 108,000

**Question 16**
Approximately how much revenue did Greenco generate per company on average in 1994?

A. EUR 350,000  
B. EUR 375,000  
C. EUR 400,000  
D. EUR 425,000  
E. EUR 450,000

**Correct answer:** B

**Explanation**
Total revenue generated in 1994  
= 13.4m + 4.6m + 9.0m = 27m  
Number of companies = 72  
Revenue generated per company =  
27m ÷ 72  
= 375,000

**Question 17**
The total growth in Revenue for the water sector between 1994 and 2000 is equivalent to what constant annual rate of growth?

A. 3%  
B. 3.3%  
C. 3.6%  
D. 3.9%  
E. Cannot say

Your answer:  
**Correct answer:** B

**Explanation**
Revenue for water sector in 1994 = 13.4m  
In 2000 = 16m  
6 yrs growth rate = (16 -13.4)/13.4 x 100  
= 20%  
Annual growth rate = 20% ÷ 6  
= 3.3%
Study the table and answer the questions below it.

![Table](image)

**Question 18**
In millions of US$, what was the average (mean) amount donated by the six largest donors of the OECD Development Assistance Committee?

A. 7126
B. 5938.33
C. 4271.67
D. 2319.5
E. 4000

**Correct answer:** B

**Explanation**
Amount donated = 35,630
Average = 35,630/6
= 5,938.33

**Question 19**
Which of these six countries donated the most per capital?

A. United Kingdom
B. Canada
C. Norway
D. New Zealand
E. US

**Correct answer:** C
Explanation
The correct answer is Norway
2042/4.6
= 443.9

Question 20
The total amount donated by all member countries of the OECD Development Assistance Committee was $US 79,191 million. If a pie chart is drawn for all countries, what would be the angle (to the nearest degree) representing the donation of the United Kingdom?

A. 9
B. 12
C. 30
D. 67
E. 70

Correct answer: C

Explanation
Amount donated by UK = 6671m
(6671m/79,191m) x 360°
= 30°
TEST THREE

Numerical Reasoning - (17 minutes)

There are 20 questions in this test and you should answer as many as you can.

Study the chart and answer the questions below it.

![Regional Drug Sales: Tequental & Parnol](image)

**Question 1**
In which region do Parnol sales exceed (in $) Tequental sales?

A. Rest of World  
B. Rest of Asia  
C. Korea  
D. Japan  
E. Hong Kong

**Correct answer:** C

**Explanation**
The correct answer is Korea  
Parnol = 37 %  
Tequental = 15%
Study the chart and answer the questions below it.

Question 2
If the total amount spent by Production was $575,000, how much did they spend on Lease Purchase schemes?

A. 17250
B. 172500
C. 345000
D. 402500
E. Cannot say

Correct answer: B

Explanation
Amount spent on production = 575,000
Percentage of lease purchase = 30%
Hence amount spent on lease purchase =
(35/100 x 575,000)
= 172,500

Question 3
If the total number of units produced was 800,000 and the Printing department spent $90,000 on Lease Purchase agreements, what was the approximate ratio of units produced to total machinery spend for the Printing department?

A. 2:1
B. 3:1
C. 4:1
D. 5:1
E. 6:1
Correct answer: C

Explanation
Total units produced = 800,000
Amount spent on lease purchase agreement = 90,000
% spent on loan purchase for printing dept = 45 %
Let amount spent on printing be x
0.45x = 90000
X= 200,000
Required ratio is 800,000 : 200,000
= 4 : 1

Question 4
If the amount spent on Hire Purchase agreements was increased by 20% across all five departments what would be the effect on the overall spend (if the overall spend was $2,000,000 originally)?

A. 380,000 less
B. 400,000 higher
C. 380,000 higher
D. 40,000 higher
E. Cannot say

Correct answer: B

Explanation
If the total amount spent = 2,000,000
Then the amount spent on hire purchase agreement is (75/500 ) x 2,000,000 = 300,000
Note: 75% is the total percentage of higher purchase agreement in all five departments
500% is the sum of all the percentages of the department.
If we increase higher purchase by 20% across all departments, the new percentage of higher purchase becomes 175%.
New amount spent on higher purchase becomes (175/500) x 200,000 = 700,000
This is 40,000 higher
Study the table and answer the questions below it.

<table>
<thead>
<tr>
<th>Department</th>
<th>Available Time Used</th>
<th>Support / New Products</th>
<th>Product Extensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>(no. of employees)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Engineering (5)</td>
<td>10,000</td>
<td>4,000</td>
<td>6,000</td>
</tr>
<tr>
<td>Technical Services (8)</td>
<td>16,000</td>
<td>3,700</td>
<td>9,540</td>
</tr>
<tr>
<td>Marketing (3)</td>
<td>6,000</td>
<td>3,600</td>
<td>2,000</td>
</tr>
<tr>
<td>Specifications (3)</td>
<td>6,000</td>
<td>3,000</td>
<td>2,000</td>
</tr>
<tr>
<td>Development (4)</td>
<td>8,000</td>
<td>5,000</td>
<td>1,500</td>
</tr>
</tbody>
</table>

**Question 5**
On average how many more hours were worked per employee in Marketing than in Specifications?

A. 149  
B. 159  
C. 169  
D. 179  
E. 189

**Correct answer:** E

**Explanation**
Marketing per employee = 3,600 + 2,000  
= 5,600/3 = 1,866.7  
Specification = 5033/3 = 1,677.7  
1,866.7 - 1,677.7  
= 189.
**Study the table and answer the questions below it.**

<table>
<thead>
<tr>
<th>Darwin Enterprises Financial Information</th>
<th>Year1</th>
<th>Year2</th>
<th>Year3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Turnover (£m*)</td>
<td>11.4</td>
<td>10.6</td>
<td>8.5</td>
</tr>
<tr>
<td>Income (£m*)</td>
<td>9.2</td>
<td>3.1</td>
<td>1.1</td>
</tr>
<tr>
<td>Assets (£m*)</td>
<td>42.3</td>
<td>28.7</td>
<td>32.6</td>
</tr>
<tr>
<td>Debt (£m*)</td>
<td>9.7</td>
<td>6.5</td>
<td>17.8</td>
</tr>
<tr>
<td>Profit Margin (%)</td>
<td>80.70</td>
<td>29.25</td>
<td>12.94</td>
</tr>
<tr>
<td>Share Price (pence)</td>
<td>108.0</td>
<td>85.6</td>
<td>56.6</td>
</tr>
<tr>
<td>Number of Shares (m*)</td>
<td>50</td>
<td>50</td>
<td>50</td>
</tr>
</tbody>
</table>

*£m = millions

**Question 6**
If Darwin Enterprise’s Share Price/Income ratio had remained constant from Year 1 onwards, what would the Share Price have been in Year 3?

A. 12.9p
B. 25.7p
C. 37.3p
D. 48.5p
E. Cannot say

**Correct answer: A**

**Explanation**
Share price/Income ratio is yr 1 = 108/9.2 = 11.7
If share price/income ratio is constant, then yr 3 =
Xp/1.1 = 11.73
=12.9p

**Question 7**
What would the Turnover be in Year 4 if it continued to decrease at the same rate as between Year 2 and Year 3?

A. £5.9m
B. £6.1m
C. £6.4m
D. £6.8m
E. £6.6m

**Correct answer: D**
**Explanation**

% decrease between year 2 and year 3

\[ \frac{10.6 - 8.5}{10.6} = 20\% \]

Turnover in yr 3 = 8.5m

Turnover in yr 4 =

\[ (1 - 0.2) \times 8.5m = 6.8m \]

**Study the table and answer the questions below it.**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Total GDP ($1,000 million)</td>
<td>66.00</td>
<td>64.35</td>
<td>80.19</td>
<td>84.00</td>
</tr>
<tr>
<td>GDP per head of population ($)</td>
<td>1,100</td>
<td>990</td>
<td>1,188</td>
<td>1,200</td>
</tr>
<tr>
<td>GDP growth per head (% change p.a.)</td>
<td>10.0%</td>
<td>-10.0%</td>
<td>20.0%</td>
<td>1.0%</td>
</tr>
<tr>
<td>Unemployment rate (% of workforce)</td>
<td>8.7%</td>
<td>10.0%</td>
<td>10.5%</td>
<td>15.0%</td>
</tr>
</tbody>
</table>

**Question 8**

In which year was the greatest number of people unemployed in the Philippines

A. 1997  
B. 1998  
C. 1999  
D. 2000  
E. Cannot say

**Correct answer:** D

**Explanation**

Note that we are given the unemployment rate as a percentage of work force but we can get this population of work force. We can only calculate the total population which is not the population of the work force. Hence the correct answer is cannot say.
Study the graph and answer the questions below it.

**Question 9**
At one time Hong Kong’s consumer goods exports were projected to rise at 20% per year from Y+2 onwards. According to this projection, what would be the value (in $m HKD) of Hong Kong’s exports in Y+4?

A. $500m  
B. $501m  
C. $502m  
D. $503m  
E. $504m  

**Correct answer:** E

**Explanation**
In year y +2, Hong Kong’s consumer goods exports = 350  
with a 20% rise, y + 3 = (1 + 0.02) x 350 = 420m  
Y +4 = 1.02 x 420  
= 504m.
Study the chart and answer the questions below it.

**Question 10**
If the cost of Insurance increases by an average of 35% overall in the second half of the year, what will be the cost of maintenance in that half if advertising and marketing increased by 17%?

A. 1000  
B. 4000  
C. 4600  
D. 5000  
E. Cannot Say

**Correct answer:** E

**Explanation**
Insufficient information.
Hence correct answer is cannot say

**Question 11**
If the wages & salaries cost was £814,995 in the first half of the year, and if the total expenditure increased by 10% in the second half of the year, what would be the wages & salaries expenditure in the second half?

A. £778,773  
B. £847,595  
C. £856,650  
D. £880,195  
E. £896,494

**Correct answer:** C
**Explanation**
Wage and Salary = 814,995
% of wages and salary = 45%
45% of x = 814,995, where x is the total expenditure in the first half of the year
x = 1,811,100
A 10% increase = 1.1 x 1,811,100 = 1,992,210
% of wages and salary in second half = 43%
wages and salary = 0.43 x 1,992,210
= £856,650

**Question 12**
If heating and lighting costs had been reduced by 10% in the second half of the year by how much would this reduce total expenditure over the whole of Year 5?

A. 5%
B. 10%
C. 15%
D. 20%
E. Cannot say

**Correct answer: E**

**Explanation**
Cannot say
insufficient information

**Study the chart and answer the questions below it.**
**Question 13**
What was the difference in the total amount spent on advertising by all five companies between March and April?

A. €1,000  
B. €180  
C. €200  
D. €250  
E. €275

**Correct answer:** D

**Explanation**
Amount spent on advertising in March = 350 + 450 + 650 + 800 + 900 = 3150  
in April = 400 + 500 + 600 + 900 + 1000 = 3400  
Difference = 250  
Answer is 250

*Study the table and answer the questions below it.*

![Table of photocopier service & running costs](image)

**Question 14**
On which photocopier is there the least amount of budget left to spend this year?

A. PHTCPR01  
B. PHTCPR02  
C. PHTCPR03  
D. PHTCPR04  
E. PHTCPR05

**Correct answer:** E
**Explanation**
Cost per year for PHTCPR1 = 120 x 52 = 6240
Actual spend = 1872 + 1968 = 3840
Budget left = 6240 - 3840 = 2400
Budget left for PHTCPR2 = 3100
PHTCPR3 = 2496
PHTCPR4 = 3808
PHTCPR5 = 1792
PHTCPR6 = 2765
Clearly, PHTCPR5 has the least amount of budget left to spend.

**Question 15**
By what proportion should the service and running costs for Photocopier PHTCPR05 be increased next year if the actual spend recorded between January and June is a true reflection of service and running costs?

A. 38.9%
B. 43.6%
C. 48.7%
D. 50.8%
E. 53.3%

Correct answer: D

**Explanation**
We calculate the percentage difference between the actual spend (to June) and the expected average spend (to June) for Photocopier PHTCPR05:
Percentage difference = \((2,716 + 2,772) - (140 \times 26)\) / \((140 \times 26)\) x 100%
= 50.8%

**Question 16**
By how much is the annual spend on Photocopier PHTCPR01 likely to exceed that of Photocopier PHTCPR02 if the current spend recorded between January and June is a true reflection of actual service and running costs?

A. $740
B. $820
C. $880
D. $960
E. $1,120

Correct answer: C

**Explanation**
Difference in actual spend = \[(1,872 + 1,968) - (1,975 + 1,425)\] x 2(multiply by 2 because jan to june is half year)
= $880

*Study the chart and answer the questions below it.*

**Question 17**
How many staff in the organisation have no qualification?

A. 406  
B. 390  
C. 482  
D. 712  
E. 140

**Correct answer:** A

**Explanation**
% representing no qualification = 14%  
Number of staff in the organization = 2,900  
Number of staff with no qualification = 14% of 2900  
= 406

**Question 18** (id: 1381)
If each Level 1 course takes a maximum of 29 staff and costs £1,170 to run, how much would it cost to get to the position where 90% of the organisation’s staff are qualified at Level 1 or higher
(assuming unqualified staff must start with a Level 1 course and that all staff who take the course achieve the Level 1 qualification)?

A. €1,520  
B. €14,742  
C. €117,000  
D. €4,680  
E. €780

Correct answer: D

Explanation
Currently, 84% of the organization staff are qualified at level 1 or higher
=> 0.84 x 2900  
é = 2494
90% of the organization’s staff = 2610
To get to the position where 90% of the organization’s staff are qualified at level one or higher, then we need to train more 2610 - 2494 = 116 staff at level 1.
Level 1 course cost 1170 for 29 staff.
Training 116 staff will cost 116/29 x 1170  
é = 4,680

Question 19
Half of the staff with no qualification are aged under 21, compared with a quarter of those qualified at Level 2 and a third of those qualified at Level 3. None of those qualified at Level 1 or Level 4 are aged under 21. How many staff in the organisation are aged under 21?

A. 2291  
B. 203  
C. 722  
D. 725  
E. 406

Correct answer: D

Explanation
Staff without qualification aged under 21 = 406/2 = 203
Staff qualified at level 2 aged below 21 = 609/3 = 203
Organization’s staff under 21  
é = 203 + 319 + 203 = 725

Question 20
If 1,000 new staff join the organisation and none leave, and half of the new staff have no training and half have Level 1, approximately what percentage of the organisation’s staff have no training?
A. 31.2%
B. 43.3%
C. 55.3%
D. 23.2%
E. 36.1%
Correct answer: D

Explanation
Presently, staff without training = 406
New staff without training = 500
% of staff without training = 906/3,900 x 100
= 23.2%
TEST FOUR

Numerical Reasoning - (17 minutes)

There are 20 questions in this test and you should answer as many as you can.

Study the chart and answer the questions below it.

![GDP per person chart](chart.png)

<table>
<thead>
<tr>
<th>Year</th>
<th>UK's GDP per person (£1000s)</th>
<th>France's GDP per person (£1000s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005</td>
<td>22,000</td>
<td>23,500</td>
</tr>
<tr>
<td>2006</td>
<td>23,250</td>
<td>23,250</td>
</tr>
<tr>
<td>2007</td>
<td>23,000</td>
<td>23,000</td>
</tr>
<tr>
<td>2008</td>
<td>24,000</td>
<td>24,000</td>
</tr>
<tr>
<td>2009</td>
<td>24,500</td>
<td>24,500</td>
</tr>
</tbody>
</table>

**Question 1**
In which year (or years) was there more than a 3.3% difference in the GDP per person for France compared to the UK?

B. 2006, 2008  
C. 2007, 2008  
D. 2008, 2005  
E. 2009, 2005

**Correct answer:** D

**Explanation**
2005 uk=22000 France =23500 difference = 1500, % Difference 6.82  
2006 uk=23250 France =23250 difference = 0 %, Difference= 0.00  
2007 uk=23750 France =23000 difference = -750, % Difference = -3.16  
2008 uk=23000 France =24000 difference = 1000, % Difference = 4.35  
2009 uk=24000 France =24500 difference = 500, % Difference = 2.08
Thus the correct answer is 2008, 2005
Question 2
Which two countries had the smallest difference in GDP per person in 2009?

A. UK, Italy
B. France, Italy
C. Germany, Italy
D. Spain, Italy
E. Spain, France

Correct answer: A

Explanation
From looking at the table Country Gross Domestic Product there is only a 0.4 difference in GDP per person between the UK (24.0) and Italy (23.6)
So the correct answer is UK, Italy

Question 3
Between which years were the GDPs per person increasing in both France and the UK?

A. 2008-2009
B. 2007-2008
C. 2006-2007
D. 2005-2006
E. Cannot say

Correct answer: A

Explanation
Look at the direction of the lines representing the UK and France (on the line graph). For both the France and the UK to be increasing the lines need to both be pointing upwards.
This is only true for 2008-2009.
So the correct answer is 2008 - 2009

Question 4
What was the average GDP per person for France and the UK across the 5 years shown?

A. £23,500 and £23,200
B. £23,650 and £23,500
C. £23,500 and £23,000
D. £23,000 and £23,500
E. £23,650 and £23,200

Correct answer: E

Explanation
Total GDP per person of UK = 11,6000
Average = 23,200
Total GDP per person of France = 118,250
Average = 23,650
So the correct answer is £23,650 (France); £23,200 (UK).

*Study the chart and answer the questions below it.*

**Question 5**
If total food sales for the four Regions are €2,400,000, what is the value of food sales for the North Region?

A. 199200  
B. 40800  
C. 408000  
D. 29166  
E. 583000

**Correct answer: C**

**Explanation**
Total food sales = 2,400,000
Total percentage of food sale for Northern region = 17%
= 17% x 2,400,000
= 408,000

**Question 6**
If North Region sold €390,000 worth of Magazines, what was the value of South Region’s magazine sales?
A. 487500
B. 109200
C. 403333
D. 1365000
E. 136500

Correct answer: A

**Explanation**
Sales of magazines = 390,000
% of magazine sales by Northern region = 28%
28% of the total sale of mag = 390,000
Total mag sale by all region = 390,000/0.28 = 1,392,857.1
% of mag sale by Southern region = 35%
South region mag sale = 0.35 x 1,392,857.1 = 487,500

Alternatively, because of time
South region mag sale
= (% of mag. sales by South region / % of mag sales by North region) x value of North region mag. sale
= 35/28 x 390,000
= 487,500

**Question 7**
Which Region had the lowest overall sales?

A. North
B. East
C. West
D. South
E. Cannot Say

Correct answer: E

**Explanation**
Cannot say because we don't have the value of total sale

*Study the chart and answer the questions below it.*
**Question 8**
What is the value of the Japanese holding in the Fund?

A. $24.0 million  
B. $28.8 million  
C. $32.8 million  
D. $44.8 million  
E. $60.8 million

**Correct answer:** B

**Explanation**
Total value of the fund = $160m  
% of Japanese holding = 18%  
Value of Japanese holding = 0.18 x 160m  
= $28.8m

**Question 9**  
By how much do the value of the holdings in the US and Japan exceed that of the value of all the other holdings

A. $16.4 million  
B. $18.8 million  
C. $19.2 million  
D. $22.8 million  
E. $26.4 million

**Correct answer:** C

**Explanation**
Value of holdings in US and Japan = $89.6m
Value of all other holdings = 160m - 89.6m
= $70.4m
Difference = $19.2m

**Question 10**
Last year, the value of the S. E. Asia holding was 10% less than what it is now. What was the value of the S.E. Asia holding last year?

A. $17.28m
B. $17.45m
C. $17.96m
D. $18.48m
E. $19.05m

**Correct answer: A**

**Explanation**
Value of S.E Asia Holding now = 0.12 x 160m = $19.2m
Value last year = (100% - 10%) x 19.2m
= 0.9 x 19.2m
= $17.28m

---

Study the chart and answer the questions below it.

### Conference and Meeting Room Hire Charges

<table>
<thead>
<tr>
<th>Rooms</th>
<th>Seating for...</th>
<th>Cost for room per day</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brahms Room</td>
<td>30</td>
<td>€250</td>
</tr>
<tr>
<td>Dylan Room</td>
<td>45</td>
<td>€400</td>
</tr>
<tr>
<td>Haydn Room</td>
<td>30</td>
<td>€300</td>
</tr>
<tr>
<td>Lennon Room</td>
<td>50</td>
<td>€420</td>
</tr>
<tr>
<td>Verdi Room</td>
<td>110</td>
<td>€510</td>
</tr>
</tbody>
</table>

Refreshments only - €10 per person per day
Lunch & Refreshments - €28 per person per day
Question 11 (id: 1350)
You need to book two rooms which between them will seat 72 people. Which of the options given below would offer this at the lowest price?

A. Haydn & Lennon
B. Brahms & Haydn
C. Brahms & Lennon
D. Dylan & Haydn
E. Brahms & Dylan

Correct answer: E

Explanation

<table>
<thead>
<tr>
<th></th>
<th>Combined Seating Capacity</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Haydn &amp; Lennon</td>
<td>80</td>
<td>€720</td>
</tr>
<tr>
<td>Brahms &amp; Haydn</td>
<td>60</td>
<td>€550</td>
</tr>
<tr>
<td>Brahms &amp; Lennon</td>
<td>80</td>
<td>€670</td>
</tr>
<tr>
<td>Dylan &amp; Haydn</td>
<td>75</td>
<td>€700</td>
</tr>
<tr>
<td>Haydn &amp; Lennon</td>
<td>75</td>
<td>€650</td>
</tr>
</tbody>
</table>

Thus, the option with the lowest price that can seat 72 people is Haydn & Lennon.

Question 12
You have booked the Dylan Room for five days with lunch and refreshments for 43 people but have to increase this to 49 people so you will use the Lennon Room instead. How much more will these changes cost you?

A. 8960
B. 860
C. 940
D. 1440
E. 188

Correct answer: C

Explanation
Cost of Dylan room for 5 days is (400 x 5)= €2000
Lunch and refreshment for 43 people for 5 days = (43 x 5 x €28) = €6020
Total cost=€8020
Using the Lennon room:
Room cost for 5 days = €2100
Lunch and refreshment for 49 people for 5 days = €6860
Total cost = €8960
Therefore, these changes will cost 8960 - 8020
= €940

**Question 13**
You book the Verdi Room for four days and are given a 25% discount on Lunch and Refreshments (but not on the Room Hire). If you have total budget of €8,100 to cover the cost of the room, Lunch and Refreshments, how many delegates could you afford each day if you have to buy them Lunch and Refreshments?

A. 72
B. 78
C. 54
D. 110
E. 90

Correct answer: A

**Explanation**
Budget for the room for 4 days = 510 x 4 = €2,040
Budget for lunch and refreshment for 4 days = 8100 - 2040 = €6060
Budget for lunch and refreshment for a day = 6060/4 = €1515
Lunch and refreshment per person per day = €28 -(25% x 28) = €21
Affordable number of delegates each day = 1515/21
= 72

**Question 14**
You have to book three rooms for three days that will seat a total of 107 people between them each day. You also need refreshments for the first two days and lunch and refreshments on the third for all 107. What is the cheapest you can get this for if you have a voucher offering a 5% discount on the Lennon Room (but not for food and refreshments) for all three days?

A. 6913
B. 6085
C. 7983
D. 5015
E. 5136

Correct answer: C

**Explanation**
€7,983
Study the chart and answer the questions below it.

**Question 15**
Which age range shows the smallest number of sales per enquiry?

A. 16-24 years  
B. 25-34 years  
C. 35-44 years  
D. 45-54 years  
E. 55-64 years

**Correct answer: A**

**Explanation**
Calculate the sales per enquiry of each age group

- 16 - 24 = 12/36 = 0.33
- 25 - 34 = 0.36
- 35 - 44 = 0.48
- 45 - 54 = 0.35
- 54 - 64 = 0.47
- 65 and over = 0.6

Hence 16 - 24 years has the smallest sales per inquiry.

**Question 16**
Assuming 400,000 mail shots were sent out to 25-34 year olds, how many more enquiries would be generated compared to actual sales?
A. 800  
B. 900  
C. 1000  
D. 1100  
E. 1200  

Correct answer: C  

Explanation
Because of time constraint, solve this problem using simple proportion.
10,000 mails generated 36 inquiries 
400,000 will generate (36 x 400,000)/100,000 = 1,560 
Also, 10,000 mail shots generated 14 sales 
400,000 will generate 560 sales 
1560 - 560 = 1,000

Question 17
Last year there were 630 sales recorded for the 45-54 year old group. How many mail shots would have been sent out to reach this figure?

A. 630500 
B. 625000 
C. 685500 
D. 760000 
E. 787500  

Correct answer: E  

Explanation
Again, using simple proportion
10,000 mailshots generated 8 sales
x mailshots will generate 630 sales
x = (10,000 x 630)/8
= 787,500

Question 18
In one year, there were 1.9 million mail shots sent out to people aged 65 and over compared to 1.1 million mail shots sent out to people aged 16-24 years old. How many more sales were likely to have been made to people aged 65 and over?

A. 270 
B. 336 
C. 390 
D. 484 
E. 533
Correct answer: C

**Explanation**
Considering 65 and over year olds
10,000 mailshots = 9 sales
1.9 million = (9 x 1.9)/10,000 = 1710 sales
Considering the 16 - 24 year olds
10,000 = 12
1.1m = (12 x 1.1m)/10,000 = 1320 sales
difference = 1710 - 1320 = 390 more sales

Study the chart and answer the questions below it.

<table>
<thead>
<tr>
<th>Fax Machine</th>
<th>Pre-Discount Price per Unit</th>
<th>Discount Price per Unit</th>
<th>Pages Printed per Minute</th>
</tr>
</thead>
<tbody>
<tr>
<td>Info-Fax</td>
<td>€500</td>
<td>€350</td>
<td>12</td>
</tr>
<tr>
<td>Speed-Fax</td>
<td>€760</td>
<td>€520</td>
<td>17</td>
</tr>
<tr>
<td>Tele-Fax</td>
<td>€980</td>
<td>€700</td>
<td>18</td>
</tr>
<tr>
<td>Zoom-Fax</td>
<td>€1,110</td>
<td>€825</td>
<td>20</td>
</tr>
<tr>
<td>Compact-Fax</td>
<td>€675</td>
<td>€495</td>
<td>16</td>
</tr>
</tbody>
</table>

**Question 19**
If 45 Tele-fax, 24 Zoom-fax and 12 Info-fax machines were purchased at the Discount Price, how much was saved on these products?

A. €21,240
B. €20,500
C. €29,480
D. €31,000
E. €22,250

Correct answer: A

**Explanation**
45 telefax - Prediscount = 44,100, Discount = 32,500
24 Zoom fax - Prediscount = 26,640, Discount = 19,800
12 Info fax - Prediscount = 6,000, Discount = 4,200
Total Prediscount price = 76,740
Total discount price = 55,500
Difference = 21,240 was saved

Study the chart and answer the questions below it.

<table>
<thead>
<tr>
<th>Level of satisfaction</th>
<th>Sales Unit</th>
<th>Finance Unit</th>
<th>Complaints Unit</th>
<th>Claims Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than satisfactory</td>
<td>3</td>
<td>5</td>
<td>14</td>
<td>18</td>
</tr>
<tr>
<td>Satisfactory</td>
<td>65</td>
<td>48</td>
<td>44</td>
<td>54</td>
</tr>
<tr>
<td>Excellent</td>
<td>112</td>
<td>82</td>
<td>122</td>
<td>48</td>
</tr>
</tbody>
</table>

Question 20
Which Unit(s) had the highest percentage of responses in the ‘Excellent category in the Customer Service Survey?

A. Sales
B. Finance
C. Complaints
D. Claims
E. Sales & Claims tied

Correct answer: C

Explanation
Calculate the % of responses for each unit
sales = (112/180) x 100 = 62.2%
Finance = 60.7%
Complaints = 65.9%
Claims = 48%
Complaint unit has the highest percentage of responses
Question 1
Assuming there were 1,250,000 insurance policies issued annually in Europe to cover the Manufacturing sector, how many claims would be expected per year?

A. 250
B. 400
C. 500
D. 550
E. 600

Correct answer: A

Explanation
Considering cover for the Manufacturing sector, we know that 20 claims are made in Europe per 100,000 policies. We calculate the number of 100,000 policies in 1,250,000 policies and multiply by the number of claims per year.

Number of expected claims = \( \frac{1,250,000}{100,000} \times 20 \)
= 250
**Question 2**  
Comparing the USA with Europe, which business sector has the most similar number of claims on a proportional basis?

A. Construction  
B. Hotels & Restaurants  
C. Transport & Distribution  
D. Manufacturing  
E. Agriculture & Fishing

**Correct answer:** A

**Explanation**  
We consider the proportional difference between claims per 100,000 for USA and Europe, for each industry:  
Proportional difference = (claims USA - claims Europe)/(claims USA + claims Europe)  
Construction - Proportional difference = 0.06  
Hotels & Restaurants - Proportional difference = 0.14  
Transport & Distribution - Proportional difference = 0.09  
Manufacturing - Proportional difference = 0.07  
Agriculture & Fishing - Proportional difference = 0.11  
Other - Proportional difference = 0.29  
From this, we can see that Construction has the most similar number of claims.

**Question 3**  
There are on average 6 times as many claims made per annum in the USA compared to Europe in the Transport & Distribution sector. How many more policies are issued in the US compared to Europe in this sector?

A. 3.3 times as many  
B. 4 times as many  
C. 4.3 times as many  
D. 5.0 times as many  
E. 5.5 times as many

**Correct answer:** D

**Explanation**  
We consider the Transport & Distribution sector. If we assume only 15 claims have been made in Europe for this sector for the year, we can fix the number of policies sold in Europe to 100,000.

On average 6 times as many claims are made per annum in the USA compared to Europe which amounts to 90 claims (6 x 15).

From this we know that the number of policies sold in the USA is  
Number of policies sold = (90/18) x 100,000  
= 500,000
From this we know that 5.0 times more policies were sold in the USA compared to Europe. Correct answer is 5.0 times more.

**Question 4**

Last year there were 630 claims made in the USA against policies written out in the Agriculture & Fishing sector. How many policies were issued that year for that sector?

A. 2670000
B. 3000000
C. 4330000
D. 5000000
E. 6300000

**Correct answer:** B

**Explanation**

We consider the Agriculture & Fishing sector in the USA. We calculate the number of policies issued that year using the fact that 21 claims were made per 100,000 policies sold. This number of policies sold for 630 claims to be made is

Number of policies sold = \( \frac{630}{21} \times 100,000 \)

= 3,000,000

**Study the chart and answer the questions below it.**

**Question 5**

The total number of £400,000 Apline houses sold in 2009 represented 80% of the annual sales
target. If this target was split equally across 5 salerooms, what was the individual sales target for each salesroom?

A. 155
B. 120
C. 125
D. 325
E. 225

Correct answer: C

Explanation
Total £400,000 house sales = 230 + 270 = 500 houses
500 = 2009 target (5 salesrooms) x 80% / 100
2009 target (5 salesrooms) = 500/0.8 = 625
2009 target per salesroom = 625/5
= 125

Question 6
Stamp duty of 3% is paid on house sales over £250,000. How much stamp duty is paid by purchasers of Apline houses in 2009?

A. £16,425,000
B. £18,550,000
C. £19,425,000
D. £6,000,000
E. £8,550,000

Your answer:
Correct answer: C

Explanation
calculate the total number of houses where stamp duty is due
£300,000 houses: 460 + 490 = 950
£400,000 houses: 230 + 270 = 500
£500,000 houses: 150 + 175 = 325
Then calculating the stamp duty due
950 x £300,000 x 3% = £8,550,000
500 x £400,000 x 3% = £6,000,000
325 x £500,000 x 3% = £4,875,000
Total = £19,425,000

Question 7
What is the total value of 2009 Apline house sales?
A. £127.5 million
B. £777.5 million
C. £115 million
D. £162.5 million
E. £353,409 million

Correct answer: B

Explanation
We calculate the total house sales for each half-year period, as follows;
Price of £200,000 Jan to June 2009 = 310, July to Dec 2009 = 340, Total Sales = £130m
Price of £300,000 Jan to June 2009 = 460 July to Dec 2009 = 490, Total Sales = £285m
Price of £400,000 Jan to June 2009 = 230 July to Dec 2009 = 270, Total Sales = £200m
Price of £500,000 Jan to June 2009 = 150 July to Dec 2009 = 175, Total Sales = £162.5m
Sum up the Total Sales = £777.5 million

Question 8
In 2010, the absolute difference in Alpine house sales between 2009’s July-Dec and Jan-June periods is expected to increase by a fifth. What is the projected difference in Alpine house sales between July-Dec and Jan-June for 2010 (in £million)?

A. 43.5
B. 52.2
C. 100
D. 125
E. 125.5

Correct answer: B

Explanation
The value of Alpine sales between Jan and June = 367m
The value of Alpine sales between July and Dec = 410.5m
difference = 43.5m
Add the increase of a fifth
= (1 + 1/5) x 43.5m
= 52.2 million

Question 9
A marketing drive in 2009 is to be used to increase the level of Jan-June house sales to the level of July-December house sales. If the ratio of marketing spend to additional sales is 1:3, then what level of marketing spend is required?

A. £156.6m
B. £75.4m
C. £52.2m
D. £36.6m
Correct answer: E

Explanation
Difference in the level of Jan-June house sales to the level of July-December house sales = £43.5 million
The marketing spend needed = 43.5/3
= £14.5 million

Study the table and answer the questions below it.

<table>
<thead>
<tr>
<th>Region</th>
<th>Previous year</th>
<th>Current year</th>
<th>Next yr’s projection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Northern</td>
<td>310</td>
<td>310</td>
<td>320</td>
</tr>
<tr>
<td>Southern</td>
<td>170</td>
<td>160</td>
<td>165</td>
</tr>
<tr>
<td>Eastern</td>
<td>290</td>
<td>300</td>
<td>275</td>
</tr>
<tr>
<td>Western</td>
<td>255</td>
<td>280</td>
<td>270</td>
</tr>
<tr>
<td>Central</td>
<td>110</td>
<td>90</td>
<td>125</td>
</tr>
</tbody>
</table>

Question 10
If the sales projections for next year prove accurate, which region will have maintained or increased sales levels each year from the previous year to next year?

A. Northern region
B. Southern region
C. Eastern region
D. Western region
E. Central region

Correct answer: A

Explanation
Only the Northern region has maintained sales at 310 for the previous and current year, as well as projecting an increase in sales to 320 for next year.

Question 11
What is the absolute difference between the lowest and the highest performing region (to the nearest £million) in the current year?

A. £216 million
B. £217 million
C. £218 million
D. £219 million
E. £220 million

Your answer:
Correct answer: E

Explanation
The difference between the highest regional sales (Northern) and the lowest regional sales (Central)
= 310 - 90 = £220 million

Question 12
If next year’s forecasts are scaled back by a quarter for the Northern and Western region, and by a fifth for the Southern and Eastern regions, what will be the total projected sales for all 5 regions?

A. £1,155 million
B. £924 million
C. £919.50 million
D. £942 million
E. £866.25 million

Correct answer: C

Explanation
Northern Region new projection = 320 x 3/4 = 240m
Southern New projection = 165 x 4/5 = 132m
Eastern New projection = 275 x 4/5 = 220m
Western New projection = 270 x 3/4 = 202.5m
Central = 125m
Summing the new projected sales
= £919.5m

Question 13
What were the ratios for the Central: Eastern regional sales for the Previous Year compared to the Current Year?

A. 9:30 ; 3:11
B. 20:50 ; 3:11
C. 10:30 ; 5:11
D. 11:29 ; 3:10
E. 5:11 ; 11:29

Correct answer: D
**Explanation**
Putting the Previous Year’s sales for these regions into a ratio = $110:290$
The Current Year’s sales for these regions into a ratio = $90:300$
Simplifying these ratios by dividing by the highest common denominator
$11:29$ for Previous Year (after division by 10)
$3:10$ for Current Year (after division by 30)
So the correct answer is $11:29$ (Previous Year); $3:10$ (Current Year)

**Question 14**
Put the regions in increasing order of total combined sales for the current year and next year’s projection

A. Central Southern Western Eastern Northern
B. Southern Central Western Eastern Northern
C. Central Western Southern Eastern Northern
D. Central Southern Western Northern Eastern
E. Central Southern Northern Western Eastern

**Correct answer:** A

**Explanation**
Northern
Current year = 310, Next Year = 320, Total = 630
Southern
Current year = 160, Next Year = 165, Total = 325
Eastern
Current year = 300, Next Year = 275, Total = 575
Western
Current year = 280, Next Year = 270, Total = 550
Central
Current year = 90, Next Year = 125, Total 215
Hence the correct answer is Central, Southern, Western, Eastern, Northern
Study the chart and answer the questions below it.

**Question 15**
How much did the combined revenue from Slot machines and Roulette differ from that of other table games between 2006-2009 inclusive (in £millions)?

A. 0.9  
B. 9  
C. 9.2  
D. 0.92  
E. None of these

**Correct answer:** D

**Explanation**
Total revenue for Slot machines = 600,000  
Roulette = 270,000  
Other table games = 1,790,000  
Difference = 17.9m - 6m - 2.7m  
= 0.92m

**Question 16**
What was the average amount gambled on Slot machines in 2007 by each individual who attended Calewall casino?
A. £90.00
B. £9.00
C. £0.90
D. £900.00
E. £0.09

Correct answer: E

Explanation
Average amount gambled = amount gambled /number of people
= \frac{140,000}{1,520,000}
= 0.09

Study the chart and answer the questions below it.

Question 17
How many more flights were booked to the USA than to Europe?

A. 20
B. 30
C. 40
D. 50
E. 60

Correct answer: D

Explanation
Number of flights booked to us = 70
Number of flights booked to Europe = 20
Difference = 50
**Question 18**
A 10% discount is offered to flights to Hong Kong booked between January and March. What was the total cost of all flights to Hong Kong in the period January to March?

A. $3500  
B. $17500  
C. $27500  
D. $35000  
E. Cannot say

Correct answer: E

**Explanation**
Insufficient information. Cannot say

**Question 19**
What was the number of UK flights booked as a percentage of the Malaysian flights if UK flights booked is 20% of the total Europe flights?

A. 15%  
B. 1.5%  
C. 50%  
D. 5%  
E. 35%

Correct answer: D

**Explanation**
Total Europe flights = 20  
UK flights = 0.2 x 20 = 4  
Malaysian flights = 80  
Required % = (4/80) x 100  
= 5%

**Question 20**
In April to June the planned number of flights to Hong Kong is 30. What is this decrease as a percentage of the number of flights booked in January to March?

A. 25.5%  
B. 33.3%  
C. 45.3%  
D. 50%  
E. 66.6%

Correct answer: B
**Explanation**
Number of flights booked to Hong Kong in January to March = 45
Planned number of flights to Hong Kong in April to June = 30
% decrease = \((45 - 30/45) \times 100\)
= \(15/45 \times 100\)
= 33.3%

END OF NUMERICAL REASONING

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The biggest risk facing the world’s insurance company is possibly the rapid change now taking place within their own ranks. Sluggish growth in core markets and intense price competition, coupled with shifting patterns of customer demand and the rising cost of losses, are threatening to overwhelm those too slow to react.

**Question 1**
Insuring of assets is one of the best means of securing it.

A. True  
B. False  
C. Cannot say  

**Correct answer: C**
**Question 2**
Insurance companies are experiencing a depression in their core markets.

A. True  
B. False  
C. Cannot say  

**Correct answer:** C

**Question 3**
Insurance companies are competing to provide the best prices to customers.

A. True  
B. False  
C. Cannot say  

**Correct answer:** A

**Question 4**
More and more insurance companies are likely to be driven out of business in the near future.

A. True  
B. False  
C. Cannot say  

**Correct answer:** C

---

Nearsightedness is to a large extent inherited; its incidence vary from one family to another. The reason behind the link between the common incidence of nearsightedness and high intelligence is unclear. Previous generations thought that eyes could become strained by years spent pouring over books, but a few decades ago the popular medical views was that nearsighted people gravitated towards the library because they find it hard to excel at sports. Recently there has been partial support for a theory that intelligence and nearsightedness may, in fact, be part of a genetic package.

---

**Question 5**
The link between high intelligence and nearsightedness is genetically based.

A. True  
B. False  
C. Cannot say
Correct answer: C

**Question 6**
Nearsightedness can be corrected by wearing concave glasses.

A. True  
B. False  
C. Cannot say

Correct answer: C

**Question 7**
People from all families stand an equal chance of being nearsighted.

A. True  
B. False  
C. Cannot say

Correct answer: B

**Question 8**
There is a link between farsightedness and low intelligence

A. True  
B. False  
C. Cannot say

Correct answer: C

Current marketing strategy has shifted attention away from how consumers chose brands towards how they use products. Expanding the use of a product can have an enormous impact on sales. Inducing existing customers to use a product in a new context is also more cost effective than either soliciting non-users to try the product, or luring people away from the competition.

**Question 9**
There is an increasing focus on how people select brands and products.

A. True  
B. False
C. Cannot say

Correct answer: B

**Question 10**
In the past the emphasis in marketing was on how customers choose brands.

A. True  
B. False  
C. Cannot say

Correct answer: A

**Question 11**
Canvassing new users to try a product is more cost effective than encouraging wider use of a product by existing customers.

A. True  
B. False  
C. Cannot say

Correct answer: B

**Question 12**
In the future, marketing strategy will depend considerably on how products are being used by consumers.

A. True  
B. False  
C. Cannot say

Correct answer: C
Recent research has shown that many financial analysts are often inaccurate when forecasting company profits. Typically they tend to be over optimistic about prospects, although some can be very pessimistic and significantly underestimate actual results. Much depends on the individual analyst’s general approach, with some being bolder than others. It has been shown, however, that more accurate forecast could be produced if analysts applied the average company profits increase across the whole economy to each company proportion to its market share.

**Question 13**
How bold an analyst is in forecasting depends on his or her general level of optimism.

A. True  
B. False  
C. Cannot say

**Correct answer:** A

**Question 14**
Most analysts are accurate when forecasting company profits.

A. True  
B. False  
C. Cannot say

**Correct answer:** B

**Question 15**
Many analysts could improve the accuracy of their forecast

A. True  
B. False  
C. Cannot say

**Correct answer:** A
TEST TWO

Verbal Reasoning - (8 minutes)

There are 15 questions in this test and you should answer as many as you can.

Instruction: decide whether each statement follows logically from the information in the passage.

For each statement there are three answer options:

True - This means that, on the basis of information in the passage, the statement is true or follows logically from the passage.

False - This means that, on the basis of information in the passage, the statement is false.

Cannot Say - This means that it is not possible to tell from the information in the passage whether the statement is true or false.

When answering each question, it is important to base your answer only on the information in the passage and not on any other knowledge you may have of the subject matter.

Most companies involved in manufacturing and heavy industry have to manage environmental problems created by past activities, either of their own or a predecessor’s making. In some cases, the practices that lead to this are no longer acceptable. Much of the industrial contamination of soil does not pose an immediate hazard, as long as the property is left undisturbed. Contamination that is an immediate threat to people and the environment, such as contaminated ground water, has to be cleaned up in most countries as a matter of law, with the company responsible bearing the cost.

Question 1
Acceptable practices have lead to environmental problems.

A. True
B. False
C. Cannot say

Correct answer: A

Question 2
In most countries, litigation draws no distinction between long and short-term hazards to the environment.
A. True
B. False
C. Cannot say

Correct answer: B

**Question 3**
Contaminated land has to be disturbed before it poses an immediate threat to people.

A. True
B. False
C. Cannot say

Correct answer: A

**Question 4**
Contaminated ground water has the greatest threat to individuals and the environment.

A. True
B. False
C. Cannot say

Correct answer: C

New documentation for unit trust investors is part of a push by regulators to provide information and protection similar to that provided to buyers of life insurance and pension plans. They have also established a cooling-off period, during which the purchase of a unit trust can be cancelled without charge. This applies only when advice has been received, typically from an independent financial advisor. Purchases made directly, for example in response to advertising, are not covered.

**Question 5**
The cooling off period does not apply to sales of pension.

A. True
B. False
C. Cannot say

Correct answer: C

**Question 6**
The sole aim of the new documentation is to provide information to purchasers of unit trust.
A. True
B. False
C. Cannot say

Correct answer: C

**Question 7**
The establishment of new documentation is the only new intervention introduced to protect purchasers of unit trusts.

A. True
B. False
C. Cannot say

Correct answer: B

**Question 8**
Buyers of life insurance are shielded by regulators.

A. True
B. False
C. Cannot say

Correct answer: A

---

In a study of 3,000 employed men in the 19-70 age range over a period of 10 years, researchers found that those working for inconsiderate bosses were more likely to suffer from stress and stress-related illness than those working for more considerate and enlightened bosses. Previous research had shown that employees with inconsiderate bosses suffered from high blood pressure which is known to increase the risk of heart disease. In the latest survey the researchers asked employees to assess the competence of their bosses as leaders. They found that those who had categorised their boss as incompetent were 25% more at risk of serious heart disease and that this level of risk increased the longer they continued to work for the same boss. The statistics took into account external factors such as social class, educational background, lifestyle and any existing illness. The researchers recommended that should their findings be confirmed, managers should be given training to help them improve.

**Question 9**
Twenty-five percent of the 3,000 men in the study group suffer stress due to inconsiderate bosses.
Correct answer: C

Question 10
Managers should be given training to help them improve their working relationships.

A. True
B. False
C. Cannot say

Correct answer: C

Question 11
There is a link between high risk rates of cardiac illness among employees that have incompetent bosses.

A. True
B. False
C. Cannot say

Correct answer: C

The European Space Agency (ESA) is the body which decides the scope and direction of European space initiatives. It is funded by its participating states, currently 18 in number. Each contributes according to its own economic power. The body controls the funding of existing activities such as the planar rocket and space station projects but is also responsible for the initiation of new projects like a new generation of weather satellites. Some of the programs are compulsory but others are not and member states are free to choose in which of the latter they will become involved. There is a direct correlation between the amount of money that a state agrees to invest in a program and the amount of benefit it can expect in return through contracts awarded to its domestic space industry. ESA directors are keen to maintain a high level of funding from its member states even in times of global economic downturn. They believe that a longer term view is needed.

Question 12
Space industries in the larger ESA contributor member states get more work from the ESA than the smaller contributors.

A. True
B. False
C. Cannot say

Correct answer: A

**Question 13**
Even in tough economic times, ESA directors wish to maintain a high level of work flowing through to the space industries of member states.

A. True
B. False
C. Cannot say

Correct answer: A

**Question 14**
Member states can choose to spend their money on the planar rocket or new weather satellites.

A. True
B. False
C. Cannot say

Correct answer: C

---

Britain is still firmly committed to the EXOMars Robot project even though the scope and the cost have grown in the three years since it was first initiated. The shape of the project has changed dramatically, mainly due to the increased expectations of scientists. According to the ESA, this change in direction justifies the almost doubling of the original budget. The increased cost will, however, have to be met by the participating countries that originally signed up to fund this program. Both Italy, the project leader, which provided much of the initial program funding, and Britain, will have to significantly increase their share of funding for this project. Britain considers that this project makes the most of its expertise in robotics. To date Britain has not been involved in other high-profile ESA program such as the Columbus science laboratory and the Ariane Rocket project. The ESA now hopes to send the robot to Mars in 2016.

---

**Question 15**
Italy and Britain are covering the cost of the ESA’s EXOMars Robot project and the costs have risen significantly over the past three years.

A. True
B. False
C. Cannot say

Correct answer: B
TEST THREE

Verbal Reasoning - (8 minutes)

There are 15 questions in this test and you should answer as many as you can.

Instruction: decide whether each statement follows logically from the information in the passage.

For each statement there are three answer options:

True - This means that, on the basis of information in the passage, the statement is true or follows logically from the passage.

False - This means that, on the basis of information in the passage, the statement is false.

Cannot Say - This means that it is not possible to tell from the information in the passage whether the statement is true or false.

When answering each question, it is important to base your answer only on the information in the passage and not on any other knowledge you may have of the subject matter.

Some commentators argue that in times of global economic uncertainty governments should be boosting flagging economies by investing in major infrastructure projects. Many people are of the opinion that governments should grasp the opportunities presented to tackle global climate change at the same time as stimulating the economy, by using this public sector investment to move towards a new low-carbon infrastructure which would be an effective way of reducing carbon emissions and of ensuring security of energy supplies. They claim investment is needed in projects like renewable energy generation, modernising buildings to be more energy efficient, improving transport networks and even building pipelines to carry captured CO2 to undersea storage facilities. They acknowledge, however, that the political will has to be found and that this has to be done on a global level if positive results are to be realised.

Question 1
Some commentators believe the best way to boost a flagging economy would be for governments to invest in major ’green’-related infrastructure projects.

A. True
B. False
C. Cannot say
Some people believe that a flagging economy should be good for ‘green’ projects.

A. True  
B. False  
C. Cannot say

Correct answer: A

Renewable energy generation projects will have a positive impact regardless of their scale.

A. True  
B. False  
C. Cannot say

Correct answer: B

Existing targets for reducing carbon emissions worldwide acknowledge that the current high levels of greenhouse gasses in our atmosphere are an accumulation over many decades that can be directly attributed to today’s developed economies. This situation has led to developing economies like India, China and Mexico having less aggressive targets for emissions reduction than the developed countries. There is concern though that unless these large emerging economies are fully committed to reducing carbon emissions, their desire for rapid economic growth coupled with less stringent emission targets will encourage them to continue to use traditional production methods rather than introduce cleaner and more sustainable technologies. If the reduction of carbon emissions worldwide has any hope of success, the emerging economies must be able to contribute on an equal basis to the decision making processes which will determine how this is to be achieved.

Developing economies have less stringent emissions reduction targets than developed economies do.

A. True  
B. False  
C. Cannot say

Correct answer: A

The developing countries will resist any move to stricter emissions targets.

A. True  
B. False
C. Cannot say

Correct answer: C

**Question 6**
Currently, developing economies produce less carbon dioxide per year than developed countries do

A. True
B. False
C. Cannot say

Correct answer: C

A new government body is about to publish a number of scenarios hypothesising how our climate might change by the year 2100. The information provided will be used to help decide how to start adapting our society to changes resulting from global warming which will be particularly important when considering large infrastructure projects with a long lifespan. Whilst all agree that there is some degree of global warming, some scientists argue that we are overemphasising this long-term approach and should instead be focusing on shorter range natural variability which is not well understood and often difficult to predict. They claim that there is no way of knowing how accurate these long range hypotheses will be, and also question how useful the hypotheses will be for predicting the climate for the next 10 years. All existing long-term predictions suggest that within fifty years our summer will be drier and heat waves will be the norm, but what, if anything, does that tell us about the next

**Question 7**
Over the next 50 years the summer each year will be hotter and drier.

A. True
B. False
C. Cannot say

Correct answer: C

**Question 8**
Some scientists do not agree that global warming is happening.

A. True
B. False
C. Cannot say

Correct answer: B
Question 9
Government scientists are not able to accurately forecast what the weather will do between now and the year 2100.

A. True
B. False
C. Cannot say

Correct answer: A

Predicting earthquakes using observable phenomena like phases of the moon, cloud formations, weather conditions or animal behaviour is a controversial and, some would say, impossible task. There is little or no verifiable evidence to link any of these phenomena to predictions of actual seismic activity. Early detection, as a means of advance warning, is far more reliable than future prediction and can be done by measuring primary waves (referred to as P-Waves). These non-destructive waves travel faster through the earth’s crust than the harmful and destructive secondary waves and so can provide a valuable, albeit short, advance warning. This effect of different speed waves can be likened to the relationship between light and sound; we see lightning before we hear the thunder. Some people believe that animals can detect P-Waves and that this is what causes them to start behaving strangely. Other theories advanced to explain their behaviour are that that the animals are reacting to chang

Question 10
If animals can detect primary waves, they could be used to predict earthquakes.

A. True
B. False
C. Cannot say

Correct answer: B

Question 11
Primary waves travel at the speed of sound.

A. True
B. False
C. Cannot say

Correct answer: C
Question 12
P-Waves, and the low-frequency electromagnetic signals some believe animals can sense, are not the same thing.

A. True
B. False
C. Cannot say

Correct answer: A

Scientists have been able to successfully genetically modify plants, animals and micro organisms for a number of years. They do this by manipulating genes to produce genetic changes (which could in theory occur naturally). Supporters of genetic modification claim that the benefits, such as being able to produce crops that are resistant to disease, will help alleviate world food shortages. Many environmentalists believe that the accidental release of genetically modified organisms into the environment is genetic pollution and they fear that the uncontrolled interbreeding of modified organisms with those occurring naturally will contaminate the environment in unforeseen and possibly dangerous ways. They point out that experiments done by researchers to reassure the public about the safety of GM crops have been carried out under scientifically controlled conditions which are far removed from the actual working conditions of food producers.

Question 13
Experiments that produced results showing the safety of GM crops did not yield scientifically valid results.

A. True
B. False
C. Cannot say

Correct answer: B

Question 14
Genetic change in plants is not always evidence of the intervention of genetic scientists.

A. True
B. False
C. Cannot say

Correct answer: A

Question 15 (id: 769)
Some supporters of genetic modification believe that unless we expand our use of GM crops, increased global food shortages are inevitable.
A. True
B. False
C. Cannot say

Correct answer: C
TEST FOUR

Verbal Reasoning - (8 minutes)

There are 15 questions in this test and you should answer as many as you can.

Instruction: 

<table>
<thead>
<tr>
<th>Decision</th>
<th>Example Explanation</th>
<th>Usage</th>
</tr>
</thead>
<tbody>
<tr>
<td>True</td>
<td>This means that, on the basis of information in the passage, the statement is true or follows logically from the passage.</td>
<td>When answering each question, it is important to base your answer only on the information in the passage and not on any other knowledge you may have of the subject matter.</td>
</tr>
<tr>
<td>False</td>
<td>This means that, on the basis of information in the passage, the statement is false.</td>
<td></td>
</tr>
<tr>
<td>Cannot Say</td>
<td>This means that it is not possible to tell from the information in the passage whether the statement is true or false.</td>
<td></td>
</tr>
</tbody>
</table>

The population of the world is increasing by around 83 million per year. This figure actually represents a decline by almost 50% in the growth rate from its peak of 2.2% in 1963 and further reductions are expected over the coming decades. The 20th century saw the biggest global increase of all time in the population and if the current levels of growth continue the world population will be around 9 billion by the year 2042. The increases are due to increased life expectancy and reduced mortality rates resulting from improvements in healthcare and agricultural productivity. Growth rates vary by region. There are estimates that over 90% of population growth in the future will be in developing countries. Central and Eastern Europe are experiencing a net decrease of population with Japan and some Western European countries expected to follow suit within the next 10 years.

Question 1
The annual rate of increase of the global population has fallen by 50% per annum since 1963.

A. True
B. False
C. Cannot say

Correct answer: B
Question 2
The European Union will suffer a net decrease in population over the next 10 years.

A. True
B. False
C. Cannot say

Correct answer: C

Question 3
Global population is predicted to reach 9 billion by 2042 as the annual global population growth rate continues to rise.

A. True
B. False
C. Cannot say

Correct answer: B

There are statistics which suggest that in some of the most underdeveloped countries almost one half of the population is now in the 10-19 age range. These countries have experienced a much smaller decrease in birth rates than has been seen in more developed countries. Charities and other agencies are calling for additional funds to be made available to provide improved education for these young people as well as easier access to contraception. There has also been a rapid increase in the number of people aged 65 or older. In the next 50 years, 95% of this increase will happen in developing countries like India, while in countries like Japan, Germany and Italy the percentage of the population aged 65 or more is set to rise to 40%. Increases in the numbers of the very young and the very old place stress on societies and governments may find it difficult to cope with the demands of an increasing number of dependent elderly citizens in addition to providing healthcare and education for the

Question 5
In Japan and Germany less than 60% of the population is under 65 years of age.

A. True
B. False
C. Cannot say

Correct answer: A

Question 6
Birth rate decreases are not restricted to developed countries.
Work-related stress is one of the biggest causes of sick leave in the UK. If you’ve noticed you always seem to be rushing about, or miss meal breaks, take work home or don’t have enough time for relaxation, for your family or for exercise, then you may well find yourself under stress, especially at work. There is often no single cause of work-related stress, but it can be caused by poor working conditions, long hours, relationship problems with colleagues, or lack of job security. Stress is often the result of a combination of these factors that builds up over time. Work-related stress can result in both physical problems, such as headaches, muscular tension, back or neck pain, tiredness, digestive problems and sweating; or emotional problems, such as a lower sex drive, feelings of inadequacy, irritability and lack of concentration. According to recent surveys, one in six of all working individuals in the UK said their job is very stressful, and thirty percent of men said that the

**Question 7**
Stress at work is often caused by relationship problems with your partner.

A. True
B. False
C. Cannot say

**Correct answer:** C

**Question 8**
Work-related stress can result in tiredness and a lack of concentration.

A. True
B. False
C. Cannot say

**Correct answer:** A

**Question 9**
One in six working men said their job is very stressful.

A. True
B. False
C. Cannot say

**Correct answer:** C
Question 10
If you spend more time with your family, you will not suffer from stress.

A. True  
B. False  
C. Cannot say  

Correct answer: C

For many years the hunt has been on to find an effective way to treat cancerous tumours using physical rather than chemical means. That hunt may now be over with the latest breakthrough made by Dr. Jennifer West at Rice University in Houston, Texas. West has done tests on animals using a non-chemical procedure known as Photothermal Ablation. She injected millions of nanoparticles, which can absorb infrared light, into the animals’ bloodstreams. These particles go straight to the tumours because, unlike healthy tissue, tumours have abnormal blood capillaries that will let them through. A few hours later an optical fibre is inserted into the tumour and a blast of infrared light is passed down the fibre, which heats the particles and effectively cooks the tumour.

Question 11
Photothermal Ablation is the latest breakthrough in chemical treatment for cancer.

A. True  
B. False  
C. Cannot say  

Correct answer: B

Question 12
Nanoparticles are objects whose dimensions are measured in nanometres, or billionths of a metre.

A. True  
B. False  
C. Cannot say  

Correct answer: C

Question 13
Nanoparticles can absorb infrared light.

A. True  
B. False  
C. Cannot say  

Correct answer: A
U3b Networks (short for the "Underprivileged three billion" who lack internet access) is a new company in Jersey set up by Greg Wyler, former owner of Rwanda’s national telephone company. He intends to provide cheap, high-speed internet access to remote areas in developing countries, which up to now has been the reserve of developed countries. Mr Wyler plans to charge $500 per megabit per month, compared with the $4,000 charged by existing companies. Mr Wyler has so far raised $40m from investors, but this seems like a risky investment, especially as billions were lost on similar projects a decade ago. So why are they investing in the hope of finding customers in the world’s poorest regions? The reason is that previous projects were over-ambitious and set out to provide global coverage, whereas U3b’s project is far less ambitious and its services will only be available to a ribbon around the equator, covering most developing countries. It will initially use just five satellites circling

**Question 14**
Mr Wyler had a background in telecoms before starting U3b Networks.

A. True  
B. False  
C. Cannot say

**Correct answer:** A

**Question 15**
The satellites for the project will cost $8m each.

A. True  
B. False  
C. Cannot say

**Correct answer:** C
On 1st July 2007 the smoke-free law was introduced in England with the aim of protecting employees in their places of work, and the general public in enclosed public places, from the effects of secondhand smoking. These law changes mean that all public transport and work vehicles used by more than one person must now be smoke-free, no smoking signs must be displayed in all smoke-free premises and vehicles, and staff smoking rooms are no longer allowed; staff who want to smoke must go outside. Local councils in England have the responsibility of enforcing the law but it is the legal responsibility of the managers of smoke-free premises and vehicles to make sure people don’t smoke. Individuals can be fined or prosecuted for breaking the law and employers can be fined if they do not display the no-smoking signs or if they allow smoking to continue on their premises.

**Question 1**
Secondhand smoking can cause lung cancer, bronchitis and other respiratory diseases.

A. True  
B. False  
C. Cannot say

**Correct answer:** C
Question 2
Truck drivers working alone are not allowed to smoke under the new law.

A. True
B. False
C. Cannot say

Correct answer: C

Question 3
It is no longer legal for internal smoking rooms to be provided for employees.

A. True
B. False
C. Cannot say

Correct answer: A

Many businesses have endeavoured to make comment cards available at all of their customer service outlets and a few are considering the feasibility of establishing customer panels on a pilot basis. However, some businesses have acknowledged that the response to customer surveys in the past has been poor, possibly reflecting the frequently voiced customer complaints of too much form filling. It may also be an indication that progress has been made and that customers are more satisfied with the customer service being offered.

Question 4
Numerous businesses have attempted to make comment cards available at their customer service outlets.

A. True
B. False
C. Cannot say

Correct answer: A

Question 5
The response to customer surveys decreases when customers are satisfied with the customer service being offered.

A. True
B. False
C. Cannot say

Correct answer: C
Question 6
Some businesses are investigating the viability of setting up customer panels on a pilot basis.

A. True
B. False
C. Cannot say

Correct answer: A

Question 7
The number of forms to be filled in by customers causes some people to complain.

A. True
B. False
C. Cannot say

Correct answer: A

Companies are seeking to improve their Web-Site so that requests for information can be dealt with more promptly and their new site will also contain customer services information. Also, "Direct Dial Inwards" (DDI) has been introduced along with VPN (Virtual Private Network) service. This facilitates calls between the Company and other VPN sites. As most sites have converted to DDI this means that staff should be in a position to dial desk to desk. This also means that customers can be transferred to the appropriate agency without having to make a second phone call. Staffs are encouraged to use proper voice mail recordings with up to date information.

Question 8
One reason why companies are trying to develop their web-sites is to respond to queries more quickly.

A. True
B. False
C. Cannot say

Correct answer: A

Question 9
All staff can now dial from desk to desk.

A. True
B. False
C. Cannot say  
Correct answer: B

**Question 10**  
DDI can only operate on VPN systems.

A. True  
B. False  
C. Cannot say

Correct answer: C

**Question 11**  
It is obligatory for staff to abide by the rules regarding proper voice mail recording.

A. True  
B. False  
C. Cannot say

Correct answer: B

---

Many colleges are now taking a more progressive approach towards education and training. Colleges now offer a greater variety of academic courses to meet the needs of today’s employer. Students are encouraged to explore all training and career options before they decide on a particular course. Advice is available from career guidance counsellors who will help the student to choose a course that will suit their needs. Because the courses are also provided through distance education it allows the individual to study at home and correspond with lecturers by using e-mail and facsimile machine. Obtaining qualifications which have credibility with employers and which accurately reflect the scope and level of the individual’s abilities and achievements is vital for all those trying to access the job market.

---

**Question 12**  
There are a greater number of academic courses available from colleges aimed at meeting the needs of employers.

A. True  
B. False  
C. Cannot say

Correct answer: C
**Question 13**
Academic courses are only provided through distance education.

A. True  
B. False  
C. Cannot say

**Correct answer:** B

**Question 14**
Many courses are provided at honours degree and post graduate level.

A. True  
B. False  
C. Cannot say

**Correct answer:** C

**Question 15**
Before deciding on an academic course, students are advised to investigate all choices available to them.

A. True  
B. False  
C. Cannot say

**Correct answer:** A
Applications are now being accepted for the following courses: Beginners and intermediate Japanese, beginners Polish, intermediate to advanced Russian, an introduction to Chinese culture and a Musical Theatre Performance Workshop. The Language Department, with the exception of the Musical Theatre Performance Workshop, which is being run by the Drama Society, is running all of the above courses. Application forms can be obtained from the Faculty of Arts Administration Office. Please note: the closing date for receipt of applications is March 10th. All fees are outlined in the application form and 10% deposits are due in advance of the commencement of each course.

Question 1
There are no courses available for those who wish to study Russian.

A. True
B. False
C. Cannot say

Correct answer: B

Question 2
The Faculty of Arts Administration office only holds information on courses run by the Language Department and the Drama Society.
A. True
B. False
C. Cannot say

**Correct answer:** C

**Question 3**
Full fees are due in advance of the course start date.

A. True
B. False
C. Cannot say

**Correct answer:** B

**Question 4**
Applications will be accepted for all courses until March 10th.

A. True
B. False
C. Cannot say

**Correct answer:** A

---

Many organisations find it beneficial to employ students during the summer. Permanent staff often wish to take their own holidays over this period. Furthermore, it is not uncommon for companies to experience peak workloads in the summer and so require extra staff. Summer employment also attracts students who may return as well qualified recruits to an organisation when they have completed their education. Ensuring that the students learn as much as possible about the organisation encourages their interest in working on a permanent basis. Organisations pay students on a fixed rate without the usual entitlement to paid holidays or sick leave.

**Question 5**
It is possible that permanent staff who are on holiday can have their work carried out by students

A. True
B. False
C. Cannot say

**Correct answer:** A
**Question 6**
Students in summer employment are given the same paid holiday benefit as Permanent staff.

A. True  
B. False  
C. Cannot say

**Correct answer:** B

**Question 7**
Students are subject to the organisations’ standard disciplinary and grievance procedures.

A. True  
B. False  
C. Cannot say

**Correct answer:** C

**Question 8**
Some companies have more work to do in summer when students are available for vacation work.

A. True  
B. False  
C. Cannot say

**Correct answer:** A

---

**Guidelines regarding the payment of suppliers are stored in the Finance Unit. Those wishing to purchase from suppliers must adhere to the following rules. Firstly, a request for a quote must be issued to at least three suppliers which will detail the unit cost, delivery time and total cost of the purchase. Only budget holders are permitted to decide upon what quote should be accepted. Once the quote has been accepted, a purchase order is issued by the Finance Unit to the relevant supplier. The invoice should be sent directly to the Finance Unit upon receipt by the budget holder where it is compared to the Purchase Order for accuracy.**

---

**Question 9**
There are certain rules, which must be adhered to by those wishing to purchase from suppliers.

A. True  
B. False  
C. Cannot say

**Correct answer:** A
**Question 10**
Whoever requests the quote has the responsibility of deciding which quote will be accepted.

A. True  
B. False  
C. Cannot say

**Correct answer:** B

**Question 11**
The budget holder is generally the office manager.

A. True  
B. False  
C. Cannot say

**Correct answer:** C

**Question 12**
Suppliers should send invoices directly to the Finance Unit.

A. True  
B. False  
C. Cannot say

Your answer:  
**Correct answer:** B
The computer system is limited in the number of reports it can generate. The Workflow Report was designed to allow the manager to print or view the workflow activity of the department. Department managers must have "senior access" rights in order to generate this report. The System Administrator and four other staff only are permitted to give users access rights to the computer system. "Viewing Access" rights are one of three sets of rights available to users. Reports have to be designed by computer programmers who have "report writing" access rights. All reports with the exception of the Security Breach Report are compatible with the department’s word processing computer package. The Security Breach Report can be generated to show the security password of the user that breached the system. All staff are advised to keep their password secret and not to disclose it to any third party. The System Usage report and the Security Breach report can only be generated by the System Administrator.

**Question 13**
Only the System Administrator and the staff of the System Administrator are permitted to give users access rights to the computer system.

A. True  
B. False  
C. Cannot say  

**Correct answer: C**

**Question 14**
All department managers have their own security password.

A. True  
B. False  
C. Cannot say  

**Correct answer: A**

**Question 15**
The departments word processing packages can be used to generate all the department reports.

A. True  
B. False  
C. Cannot say  

**Correct answer: B**
There are 15 questions in this test and you should answer as many as you can.

Instruction: decide whether each statement follows logically from the information in the passage.

For each statement there are three answer options:

- **True** - This means that, on the basis of information in the passage, the statement is true or follows logically from the passage.

- **False** - This means that, on the basis of information in the passage, the statement is false.

- **Cannot Say** - This means that it is not possible to tell from the information in the passage whether the statement is true or false.

When answering each question, it is important to base your answer only on the information in the passage and not on any other knowledge you may have of the subject matter.

All of the private addresses that we deliver to have been entered onto our "Matrix 9.0" database and have reviewed the figures. On the basis of this, we have decided to cease making deliveries to private addresses as we lack the resources to make this profitable (on average we lose £1.34 on each delivery). We have seen a rapid growth in our business deliveries and will focus on these instead as profits average £14.22 for each of these. Inevitably this means that we will cease some individual deliveries that are profitable and continue with some that are not, but overall this strategy should maximise the profitable use of our available resources in both personnel and vehicles. Please note that E.P. Wilson has two entries on the Matrix 9.0 database.

**Question 1**
No individual deliveries to private addresses are profitable.

A. True
B. False
C. Cannot say

Correct answer: B
**Question 2**
No deliveries will be made to E.P. Wilson in future.

A. True  
B. False  
C. Cannot say  

Correct answer: C

**Question 3**
The overall profit from business deliveries is greater than the overall profit from deliveries to private addresses.

A. True  
B. False  
C. Cannot say  

Correct answer: A

---

Social researchers had for some time been predicting the growth in sporting activity that we have experienced over the past five years. They now point to the changing economic situation, the increased availability of (and funding for) sporting facilities and the success of Irish athletes as the key reasons for this growth. They also note that increasing Irish athletic success has helped achieve this greater funding for sporting facilities, which has in turn increased the number of world class Irish athletes.

---

**Question 4**
Without the success of Irish athletes there would not have been any growth in sporting activity over the past five years.

A. True  
B. False  
C. Cannot say  

Correct answer: C

**Question 5**
Irish athletic success has led to a fall in the number of world class Irish athletes.

A. True  
B. False  
C. Cannot say  

Correct answer: B
Question 6
Without the greater levels of funding for sporting facilities there would have been fewer world class Irish athletes.

A. True  
B. False  
C. Cannot say

Correct answer: C

Question 7
Some of the key reasons for the recent growth in sporting activity are related to each other.

A. True  
B. False  
C. Cannot say

Correct answer: A

Each year we send the report out in the first week of January and start getting feedback the following week. Last year, for the first time, we sent out e-mail reminders two days after the reports were posted and the amount of feedback we received increased dramatically over previous years. The response rate is affected by many factors, not least whether there is a down turn in the economy and if the weather is bad. The level of service we provide has less impact than these factors, though more than the price we charge, which has almost no impact at all. Almost all of the feedback we receive is very useful, though some people just send in complaints, which is far from useful. Most of the complaints are about things we have no control over at all.

Question 8
The amount of feedback received two years ago was lower than the amount received last year.

A. True  
B. False  
C. Cannot say

Correct answer: A

Question 9
More complaints were received last year than in previous years.

A. True  
B. False  
C. Cannot say

Correct answer: C
**Question 10**
The level of service is not related to the response rate.

A. True  
B. False  
C. Cannot say  
**Correct answer: B**

**Question 11**
Complaints about things we have no control over make up less than half of the feedback we receive.

A. True  
B. False  
C. Cannot say  
**Correct answer: A**

Damage to tree stocks has increased gradually over the last 30 years, due mainly to the increasing numbers of pests, the greater resistance of the pests to chemical means of controlling them and also because of the unusually high levels of pollution in the area. It is ironic that at least some of the pollution is because more people are driving into the area to view the trees, and it is the same visitors who are responsible for accidentally transporting some of the pests. The pesticide CH44 has had progressively less impact over the last five years and is expected to be no longer cost effective within two years, whilst CH72 is now useless.

**Question 12**
CH44 was an effective pesticide 30 years ago.

A. True  
B. False  
C. Cannot say  
**Correct answer: C**

**Question 13**
CH44 is more effective now than CH72.

A. True  
B. False  
C. Cannot say  
**Correct answer: A**
**Question 14**  
If visitors did not drive to the area to see the trees, the level of damage to tree stocks would not have increased in the last 30 years.

A. True  
B. False  
C. Cannot say  

**Correct answer:** B

**Question 15**  
If the level of pollution fell, so would the number of pests.

A. True  
B. False  
C. Cannot say  

**Correct answer:** C

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