Answer the next three questions based on the data given below.

Internet usage growth statistics

Country	Population	Internet users in 2000	Internet users today
Bangladesh	154,037,902	100,000	500,000
Bhutan	682,321	500	40,000
China	1,330,044,605	22,500,000	298,000,000
India	1,147,995,898	5,000,000	81,000,000
Indonesia	237,512,355	2,000,000	25,000,000
Japan	127,288,419	47,080,000	94,000,000
Malaysia	25,274,133	3,700,000	15,868,000
Myanmar	47,758,181	1,000	40,000
Nepal	28,196,960	50,000	397,500
Pakistan	172,800,051	133,900	17,500,000
Philippines	96,061,683	2,000,000	20,650,000
Singapore	4,608,167	1,200,000	3,104,900
Sri Lanka	21,128,773	121,500	771,700

23. Which country has seen the maximum percentage growth in internet usage when todays usage is compared to usage in 2000.

A. Pakistan
B. Bhutan
C. Myanmar
D. China
E. India

Solution:
The percentage growth is nothing but (q-p) * 100 / p, where q is the usage today and p is the usage in 2000.

This is nothing but (q/p – 1) * 100. Hence whichever country has the biggest q/p, will have the biggest percentage improvement.

Since 5 options are given, it is enough to calculate ratios of these 5 countries.

For Pakistan the ratio is 17,500,000/133,900 which roughly comes to 130.
For Bhutan the ratio is 40,000/500 which is 80
For Myanmar the ratio 40,000/1000 which is 40
For China the ratio is 298,000,000

/22,500,000 which is roughly 13
For India the ratio is 81,000,000/5,000,000 which is roughly 16

This ratio is highest for Pakistan.

Hence the correct answer is A.

24. Which country has the least penetration (users as a percentage of population) as of today.
A. Bangaladesh
B. Nepal
C. Myanmar
D. Bhutan
E. Sri Lanka

Solution:
% Penetrationis nothing but (Internet users divided by population) multiplied by 100.
For Bangaldesh Penetration is 500,000 * 100 /154,037,902 which is roughly .3
For Nepal Penetration is 397,500 * 100 /28,196,960 which is roughly 1.4
For Myanmar Penetration is 40,000 * 100 /47,758,181 which is roughly .08
For Bhutan Penetration is 40,000 * 100 /682,321 which is roughly 5.8
For Sri Lanka Penetration is 771,700 * 100 /21,128,773 which is roughly 3.65

Hence the country with the least percentage is Myanmar

The correct answer is C.

25. What is the population of the country which has the median value of Internet users today.

A. 21,128,773
B. 96,061,683
C. 4,608,167
D. 172,800,051
E. 25,274,133

Solution:
The median value of a lsit of numbers is the middle value when the list is sorted.
The data sorted according to “Internet users today” values is

Bhutan	40,000
Myanmar	40,000
Nepal	397,500
Bangladesh	500,000
Sri Lanka	771,700
Singapore	3,104,900
Malaysia	15,868,000

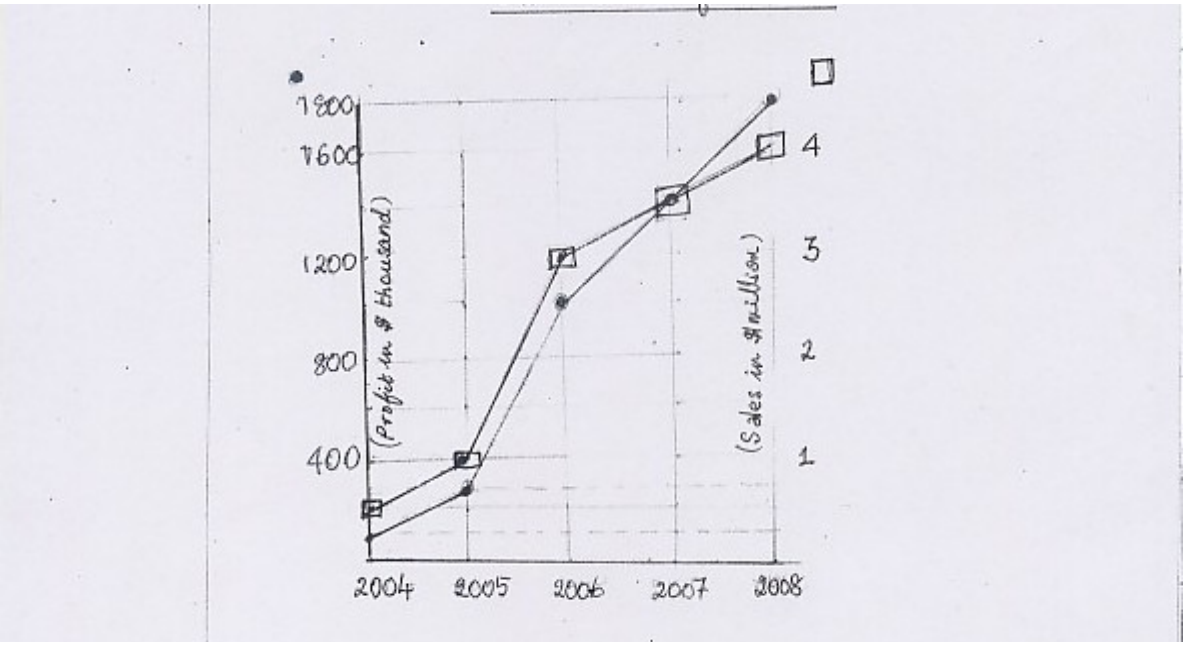
Pakistan	17,500,000
Philippines	20,650,000
Indonesia	25,000,000
India	81,000,000
Japan	94,000,000
China	298,000,000

Since the list has 13 values, the median value is 15,868,000.
This is for the country of Malaysia.

The population of Malaysia is 25,274,133.

Hence the correct answer is E.

Data Interpretation # 3



Legends of the graph needs proper explanation/representation- level 2

The pair of line graphs shown above represent the annual figures for sales and profits of Company ABC in successive years from 2004. On the basis of the data they provide answer questions 1, 2 and 3 below. Companies' profit is expressed as a percentage of Sales.

1 What was the percentage profit on sales, of Company ABC, in the year which marked the slowing down in sales compared to profit ? **(QID 1351)**

A 20 B 25 C 33 D 35 E 40

2. What was the average annual profit of Company ABC in the overall period under review ? (**QID 1352)**

A $ 4.7 million B $ 0.92 million C $ 92,000 D 92,000 E $ 470,000

3 WOTF is the closest to the % of profit of Company ABC in year 2008 ? **(QID1353)**

A 22 B 23 C 45 D $ 1.8 million E $ 4 million

Solutions

1 C The slope of a curve indicates the rate of growth or rise in the value of the related function. The sales graph begins to lose steepness in 2006, while the profit line goes on at the same rate. In 2006, the profit is $ 1 m and sales $ 3 m.

2 B The required figure is 1/5 of total sales of all 5 years,i.e.,

100 + 300 + 1000 + 1400 + 1800 = 9200 thousand

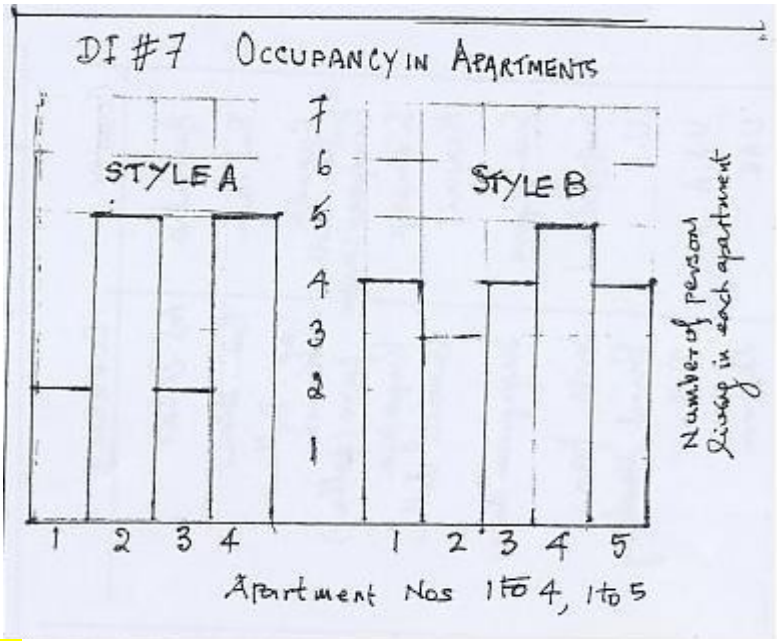
Solution to qn 2

B should be $\frac{100+300+1000+1400+1800}{5} = 920$ thousand

3 C The required value is \$1800 thousand / \$ 4 million, i., 45 %

Data Interpretation # 7 (on apartment occupancy)

In the two bar charts below are shown some details regarding different styles of apartments at two different locations. Answer questions 1 to 3 following on the basis of the information.
Note : Occupancy of an apartment means the number of persons living in that apartment.



Overall level - 2
(Question 1 is EASY, question 2 MEDIUM and question 3 HARD to answer)

1 By how much per cent is the occupancy in # 5 apartment in Style B less or more than that in # 4 in Style B ?

A 25% more B 1/ 4 % less C 20 % less D 1/5 % less E 25% less

2 How many times the occupancy of apartment 3 in Style A is that of apartment 2 in style B ?
(QID1361)

To increase the complexity of this question - 2

A 1.5 B 4/3 C 2/3 D .67 E 1

3 Occupancy increases in direct proportion to the number of rooms in an apartment. On this basis, if in # 5 apartment in Style B 25% more number of people could live

and in # 2 apartment in Style A 20% fewer than as shown, what would be the change in the combined average occupancy in the two ?**(QID1362)**

A 2 more B 20% less C a quarter more D none E none of these

Solutions

1 C Average occupancy of # 5 Style B = 4
Average occupancy of # 4 Style B = 5
4 is 20% less than 5.
The wordings has to be checked- To use one common usage through out, either number of occupancy or average occupancy

2 A Occupancy of 2 B is 3 ; occupancy of 3 A is 2 ; 3 is 1.5 times 2.

3 D Occupancy of # 5 B is 4 ; 25% more will make it 5
Occupancy of # 2 A is 5 ; 20% less will make it 4
There is thus no change in total occupancy, and therefore in the average

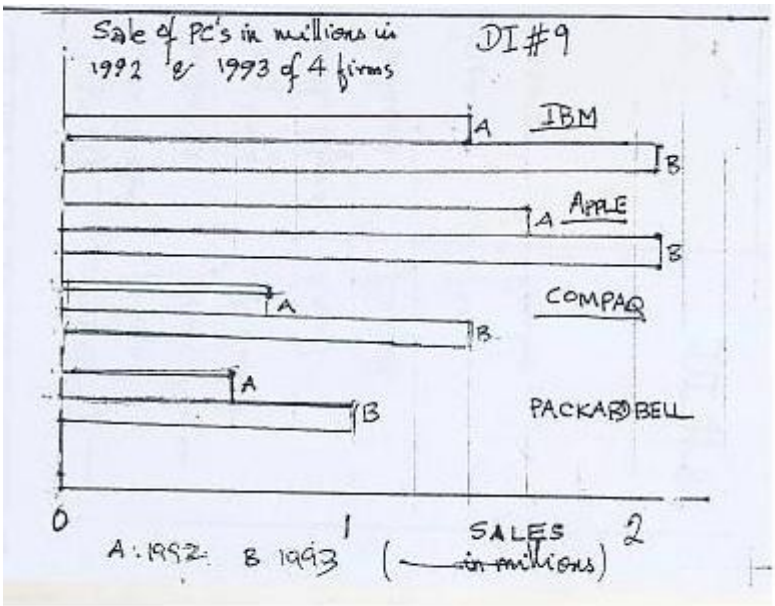
Data Interpretation # 9 (on computer sales)

The order of the Questions has to be changed, such that in the increasing order of difficulty

For the 4th Question, 3 statements is enough

Level - 4

(All the questions in this set may be ranked as HARD The fourth question is particularly complex and calls for close attention).



The questions following refer to the Bar Charts comparing the sales of PC's of four companies in 1992 and 1993 and need to be answered with the help of the information provided there.

1 Taking the sales for two new companies X and Y (not shown in the chart), in 1993, the sales of Apple, Compaq, Co. X and Co. Y are in the ratio of 6:4:2:1. How many more PC's did company X make than company Y, sales being 80% and 90% of production in companies X and Y respectively ?**(QID1366)**

A 1.8 million B 1,2 million C 0.35 million D 486,112 E 201,388

2 If IBM had amalgamated with Packard Bell in 1992, how many fewer million PC's would be their combined sale in 1992 than the combined sale of Compaq and Apple in 1993 ? **(QID1367)**

A 2.225 B 1.5 C 1.1 D 0.9 E 0.75

3 If the total sales of the four companies shown in 1994 were as many more than their total sales in 1993 than the total 1993 sales were in excess of 1992 sales, then what would be the average sales of PC's of all four companies in 1994 ? **(QID 1368)**

A 3 B 2.6 C 2.4 D 2.3 E 2.2

4 WOTF statements is corroborated by the given data ?**(QID1369)**

A The percent increase in sale of PC's from 1992 to 1993 was closest to the % increase in the sale of Compaq PC's in the same period.
B IBM achieved the maximum % improvement in sale among the four companies
C Sale of IBM in 1992 equalled the combined sales of Compaq and Packard Bell in 1992 in number.
D Apple had the least increase in number of PC's sold between 1992 and 1993.
E Compaq and Packard Bell have achieved the same % increase in sale from 1992 to 1993.

Solution

1 D Make a table as below, to show the ratio of sales and actual sales of Apple, Compaq, Co. X and Co. Y in year 1993 :

	Apple	Compaq	Co. X	Co. Y
Ratio of sales	6 :	4 :	2 :	1
Actual sales	2.1 m	1.4 m	0.7 m	0.35 m
	(from bar chart)		(by deduction from the ratio}	
Production			0.7/80%	0.35/90%
			(=0. 875m)	(= 0.3888m)

Thus Co. X made (875,000 - 388,888 =) 486,112 more computers than Co. Y did, in 1993.

2 B 1992 IBM 1.4 million 1993 Apple 2.1 million
Packard Bell 0.6 " Compaq 1.4 "
Total 2.0 ' Total 3.5 "

The first total is short of the second by 1.5 million.

3 E Interpret the question to mean (Total sales in 1994) / 4 = ?
Interpret the constraints of the question as
Total sale of 1994 = 1993 sale + (excess of 1993 sale over 1992 sale)
" " " 1993 = 2.1 + 2.1 + 1.4 + 1.0 = 6.6 million
" " " 1992 = 1.4 + 1.6 + 0.7 + 0.6 = 4.3 ".

Thus the required result is { 6.6 +(6.6 - 4.3)] / 4 = 2.225 million

4 A Examine choice A
Increase in total sales of all companies from 1992 to 1993
= (2.1+2.1+1.4+1) - (1.4+1.6+0.7+0.6) = 6.6 - 4.3 = 2.3
Per cent increase in sales of all four companies = (2.3 / 6.6) X 100 = 53 % " " "
" " " Compaq = (0.7 / 1.4) X 100 = 50 %
Read statement B
Examining the bars of the other 3 companies (without actually computing, as the bars are drawn roughly to scale) reveals at once that Packard Bell has increased its sales from 0.6 m to 1.0 m, by 66 2/3%.. The statement is clearly incorrect.
To check statement C, examine the bar charts for 1992, and notice that the statement is close to true ; actual computation shows
(Compaq + Packard Bell) 1992 sales = 1.3 ; IBM 1992 sale is 1.4
To check statement D, once again look at the difference in lengths of the 4 bars in the chart, it will be clear that this statement is incorrect.
E - we have already seen Packard Bell registers the highest % increase of 100%; Compaq's is only 50%. This statement is incorrect.

Now that both A and C seem to be close to true, we need to establish which is closer.

Revert to solution A : the figure 53 % differs from the figure 50% (which is the reference for comparison) by 3 in 50 on the higher side, i.e., a 6% positive error:
In C, we are comparing a figure of 1.4 with one of 1.3 and the error is 0.1 in 1,3 (higher) = 7.7 % positive. Comparing the two errors, 6% and 7.7 %, we declare the first more closely corroborated by the data.

DI # 13

For answering questions 1 to 3 following, use the information provided by the table and the pie-chart, which show the continents and locations of deserts on the earth, together with their names

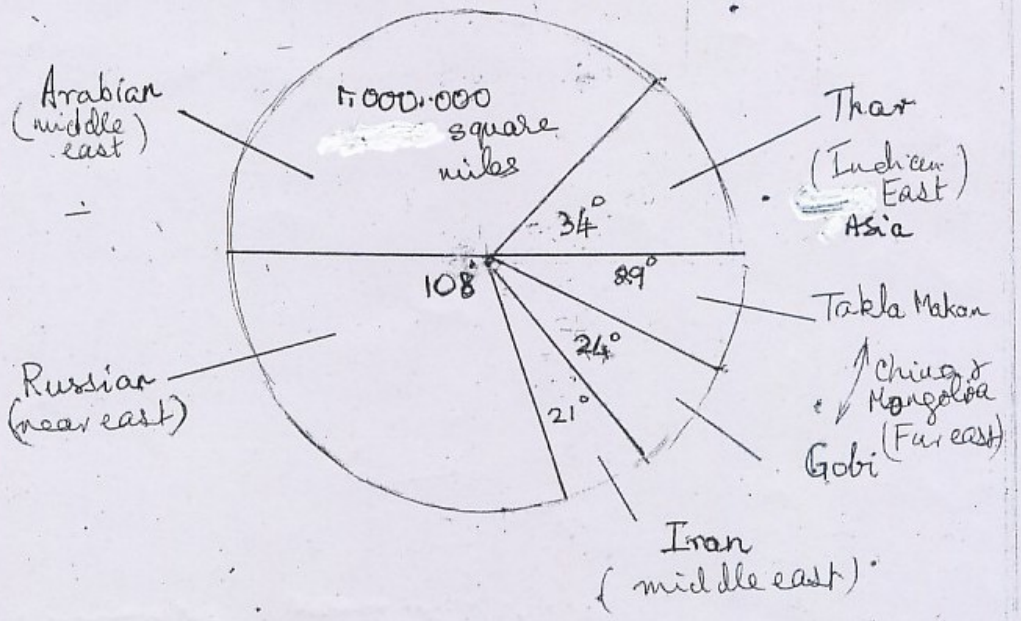
and areas.

DI #13

THE EARTH'S DESERTS AND THEIR AREAS

Continental Regions	Location	Name	Area in sq. miles million	Area in sq. miles thousand
Africa	Northern Africa	Sahara	3.5	
	Southern Africa	Kalahari		220
Asia	East, South, South East Near, Middle, Far East		2.5	
Australasia			1.3	
North America				500
South America	Argentine	Patagonian		260
	Chile & Peru	Atac ama		140
Total			7.3	1120
			8,412,000 square miles	

DISTRIBUTION BY AREA OF DESERTS IN ASIA



THE FIVE CONTINENTS AND THEIR DESERTS
(There are no deserts in the two continents of Antarctic and Europe)

Continetal Region	Location	Name	Area in square miles millions	thousands
Africa	Northern Africa	Sahara	3.5	-
	Southern Africa	Kalahari	-	220
Asia	Near, Middle, South- East and Far East		2.5	-
Australasia			1.3	-
North America			-	500
South America	Argentine	Patagonian		260
	Chile & Peru	Atacama		140
Total area of deserts			7.3.billion	+ 1120 thousand
			= 8,412,000 square miles	

PIE CHART TO APPEAR HERE

(Use the following information for draughting)

Arabian	Middle East	1000 square miles	144 degrees
Russia	Near East		108 "
Indian Thar	Southeast Asia		34 "
Chinese (Takla Makan)	Far East		29
Mongolian (Gobi)			24
Iranian	Middle East		21

---

1 Nearly 70% of the earth's total area is taken up by oceans, seas, lakes and other water souces. Given thatv about 14.6 % of the earth's land area is desert, WOTF is closest to the measure of the total surface area of the earth, in million square miles ?

A 117,880 B 176.640 C 197.272 D 219,782 E 245,000

2 According to the information, the combined area of the Indian and Iranian deserts is closest to WOTF percentages of the total area of North American deserts ?

A 85 B 77 C 63 D 38.5 E 27

3 WOTF are borne out by the information in the table and chart ?

I The areas of the two South American deserts are in the ratio 13 : 7
II African deserts occupy nearly 80,000 square miles more of the earth's area than Asian and Australasian deserts together ?
III The deserts of China and Mongolia occupy more than a third of the earth's land area.

A I & II only B II & III only C I only D II only E I & III only

---

Solution

1C Earth's land area = (Total desert area) / 14.6% = 30% of total earth area (as water area is given to be 70%

Total earth area is thus [(8.412 billion sq miles) / (30% of 14.6%)] X 100
= 8.41 X 100 billion sq miles
4.28(4.38)

It is clear that the fraction at the left nearly equals 2, but is less, i.e., the total surface area of the earth is nearly 200 billion square miles, and a little less, making C the best option

Explanation: Given that The total Desert area = 8.1412 billion
Total land area = 30% of total earth area (As water area is given 70%)
Here we can write as Total Earth area = Total Land area / 30%-----(1)
Total Desert area = 14.6% of total Land area
So we can write as the Total Land area = Total Desert area /14.6%(2)
Put the (2) value in the (1).
So we will get The Total Earth area = Total Desert area /(30% X 14.6%)
Total earth area = (8.412 / 4.38) X 100 = 1.92 billion

2B North American deserts cover an area of 500,000 square miles ; the Indian (Thar) desert and Iranian desert together take (235+285 =) 385 thousand sqaure miles

The required figure is thus : 9385/500)X100 = 77%

3A I The South American deserts areas of 260 thousand and 140 thousand square miles, bearing a ratio 13;7

II The total area of the African deserts, Sahara and Kalahari is 3.5 million + 220 thousand square miles = 3.72 million ;Asian and Australasioan deserts take a total area of 2.5+1.3 =3.8 million square miles ;, which is (3.8-3.72=) 0.08 billion, or 80,000 square miles

Since I and II are both right, choice A could be right ; B and C are incorrect, as they leave out I and II respectively ; so also are D and E incorrect. If further checking back is needed (as will be the case in the earlier questions of the adaptive test), note from the piechart that the deserts of China and Mongolia occupy a combined area equivalent to 53 deg. of the angle at the central sector, which represents (53/360) or nearly 1/7 of the deserts of the Near East, Middle East, South East Asia and Far East. This can in no way be equal to "a third of the eartth's land area".

DI # 14

Answer questions 1 to 3 following, using the information on how health care costs are distributed among the different components, as shown in the two pie charts.

Space for two pie charts

HOW HEALTH CARE COSTS ARE DISTRIBUTED

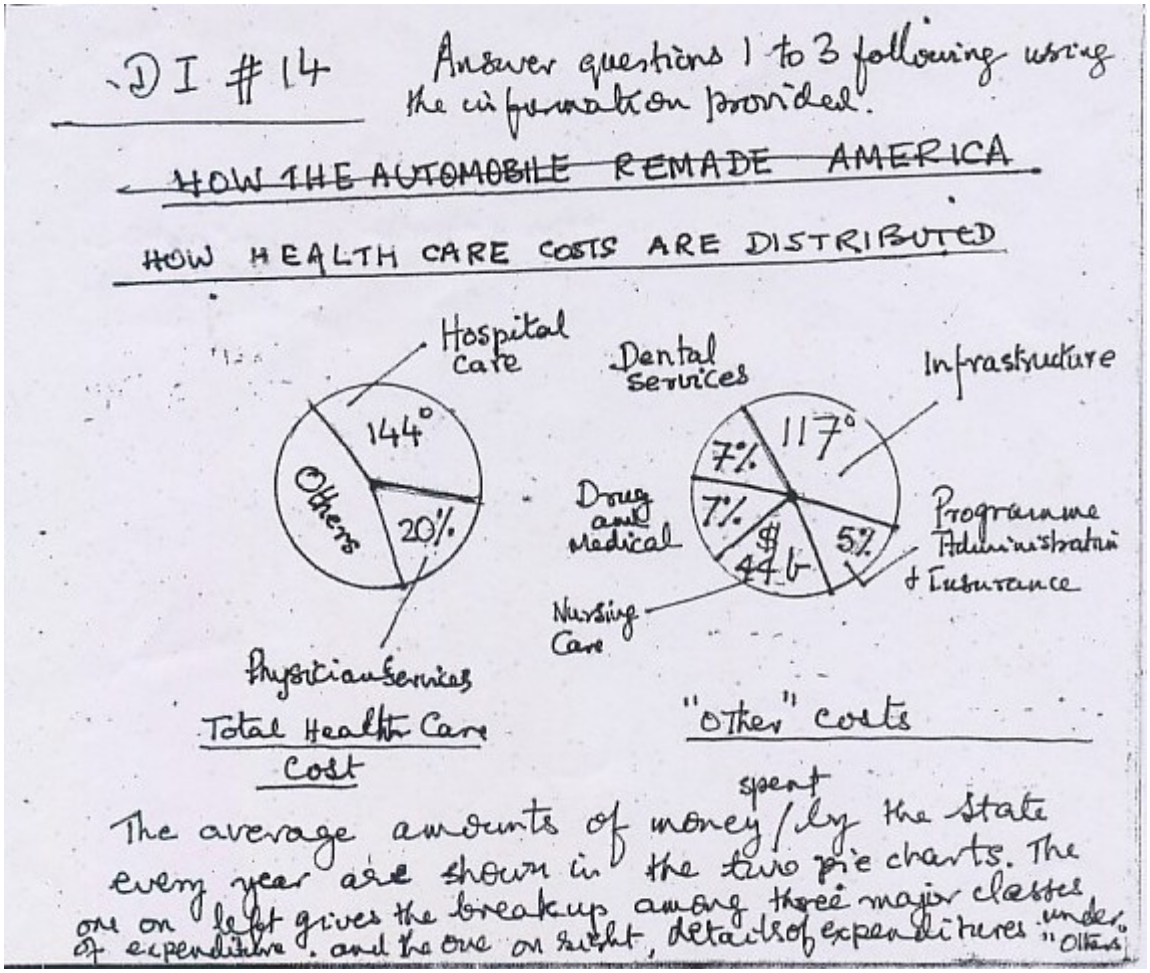


Chart # 1 Chart # 2

(Use the following information for draughting)

Hospital care	144 deg	Infrastructure	117 deg
Physician Service	72 "	Nursing care	28.8 "
Others	144 "	Dental service	25.2 "
		Drug & Medical	25.2 "
		Administration	18 "

&am p;am p;am p;am p;nb sp;

The average amounts of money spent by the state every year are shown in the two pie charts. The one on left gives the break-up amon three major classes of expenditure, and the one on right the break-up of expenditures under "others."

1 What amount of the total healthcare expenses are due to Infrastructure ?

A $ 71.5 B $ 715,000 C $ 7.15 million D $ 8.132 million E $ 71.5 thousand

2 Infrastructure expenditure is made up of three major items, Electricity, Maintenance and Transportation, in the ratio 2:3:4. By how many million dollars does Transportation expenditure exceed Maintenance ?

A 640,000 B 80,000 C 32,000 D 8,000 E 800

3 According to a study it is possible to cut down expenses on Hospital care. How much % of Hospital care expenses could effect a change of 20 % in the Dental service care ?

A 5.6 B 4.2 C 3.5 D 2.8 E 1.4

Solution

Information on any cost at all is provided only in the pie chart on right : $ 44 billion is spent on Nursing Care. Before proceeding to attempt answering any of the questions in this set we need to establish

: (1) the total dollar cost under "others" in the left pie, which is {(100% - 20 % -(equiv. % of 144 deg. of the pie on left)}, = 40% of Health care ;

(2) how much % of this is taken up by $ 44 b (of Nursing care). In the right pie; the total of 117 deg (13% of 360 deg)+7%+7%+5% is 32%; That leaves (40%-32%=) 8% for the $ 44 billion Nursing care. The total cost of "others" is thus $ 44 billion / 40% = $ 220 billion

(3) In the left pie, "others" occupies 40% of the total, which is thus 220/40% = $ 550 billion.

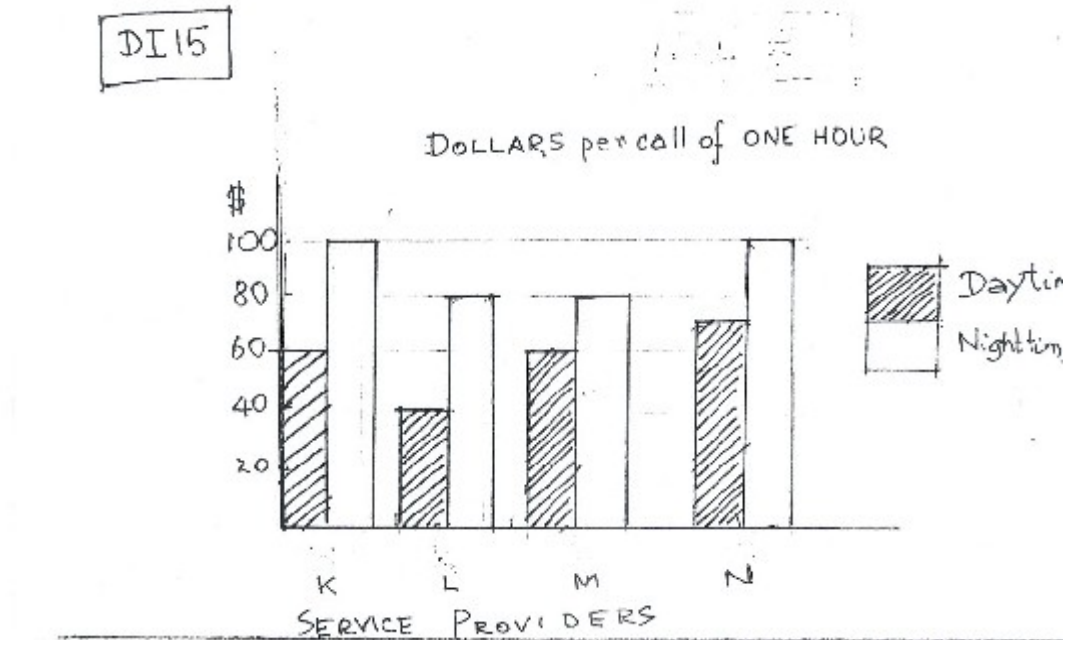
1A Infrastructure is 13% of 550 b = $ 71.5 billion

2D the ratio 2:3:4 accounts for a total (ratio) figure of 9 ; the difference relevant to the question is 4 - 3 = 1. Thus the required result is 1/9 X 71.5 (infrastructure) = 8(approx.), i.e., 8 billion dollars = 8,000 million dollars

3C Hospital care = 144/360 X 550 billion dollars
20% of Dental services = 20% of 7% of 550 billion dollars
The response to the question is 20% of 7% of 550/ (144/360 X 550) = 3.5 %

Data Interpretation DI # 15

Answer questions 1 to 3 following, using the information provided in the bar charts.
relating to the call charges of service providers K, L. M and N for day and night rates.



Daytime (6 AM to 9 PM)
Night time (9 PM to 6 AM)

Legends are not given with the splitups; what if each operator gives different split-ups?

---

1 Which provider offers least difference between day and night rates ?

A K
B L
C M
D N
E both K and M

2 How much more will a three-hour call, lasting from 5 AM and serviced by provider K, cost than a two-hour call till 10 PM serviced by provider L ?

A $ 120 B $ 100 C $ 80 D $ 60 E $ 40

3 If Tom, having to make a 90-minute call from 8.30 PM, has a choice of all four

providers, and chose them for the most economical combination, what will the call cost Tom totally ?

A $120 B $ 110 C $ 100 D $ 89 E 80

SOLUTIONS

1C The graphs are drawn to scale, and the vertical axis is calibrated in dollar units. By reading off the bars, we can see that the difference between the tall and short graphs measures least for provider M

2B 3 -hour call from 5 AM splits as 5-6 AM + 6-8 AM, and will cost $ 100X1 + $ 60X2 = $ 220 through K

2-hour call till 10 PM splits as 9-10 PM + 10-11 PM, costing $ 40X1 + $ 80X1 = $ 120 through L

The difference is US $ 100.

Split up says 10pm to 6am is night duration and 6am to 10pm is the day duration

Also, two-hour call till 10 PM -is the qn. which implies 8-10, but qn says 9-11pm.

3C A 90-minute call from 8.30 PM will split as 8.30 9 PM (day) + 9-10 PM nigjht, and We look for a combination of provider who can offer the lowest day rate and the lowest night rate, and see L at day rate and either L or M at night rate. The charges work out to $ 40X1/2 + $ 80X1 = $ 100)

Split up says

6-9pm is day and 9-6 is night