

**GRE QUANT TOPIC TEST – WEEK 1 (solution)**

**(Percentage, Profit and Loss, Ratio)**

1. **(D)** Since  which is clearly more than 65%, it appears that Quantity B is greater. Be careful! That would be true if a were positive, but no restictions are placed on a. If a = 0, the columns are equal; if a is negative, Quantity A is greater. Neither quantity is always greater, nor the two quantities are not always equal (D).
2. **(A)**Assume the list price of the CD is $100. Store B always sell the CD for $40 ($60 off the list price). Store A normally sells the CD for $60 ($40 off the list price), but on sale reduce its price by 20%. Since 20% of 60 is 12, the sale price is $48 ($60- $12). The price is greater at Store A.

Notice that a decrease of 40% followed by a decrease of 20% is not the same as a single decrease of 60%; it is less. In fact, a decrease of 40% followed by a decrease of 30% wouldn’t even be as much as a single decrease of 60%.

1. **(D)**Let x represents the number of chaperones required, and set up a proportion: Cross-multiply: 100=12x This of course, is not the answer since, clearly, the number of chaperones must be a whole number. Since x is greater than 8, 8 chaperones would not be enough.
2. **(C)**The population doubled three times (once from 1960 to 1970, again from 1970 to 1980, and a third time from 1980 to 1990). Assume that the population was originally 100. Then it increased from 100 to 200 to 400 to 800. So the population in 1990 was 8 times the population in 1960, but this was an increase of 700 people, or 700% (C).
3. **(E)** 
4. **(D)** Since 20% of 80 is 16, Bernie wants to get $96 for each radio he sells. What price should the radios be marked so that after a 20% discount, the customer will pay $96? If x represents the marked price, then 0.80x = 96 →x = 96 / 0.80 = 120.
5. **(D)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Vessel 1 | | Vessel 2 | |
| Milk | Water | Milk | Water |
| Initially | 38 | 0 | 0 | 24 |
| After 1stoperation | 30 | 0 | 8 | 24 |

Now, the ratio of milk to water in vessel 2 is 8:24 =1:3 and the ratio of milk to the total solution in vessel 2 is 8:32=1:4. Therefore, of the 20 liters, 1/4th (i.e. 5 liters) is milk and 3/4th (i.e. 15 liters) is water.

Therefore, after the 2nd iteration, amount of milk in vessel-1=30+5=35 liters and amount of water in vessel-2 =24-15=9 liters.

Therefore, the ratio of milk in vessel 1 to water in vessel 2 is 35:9.

1. **(B)**Let the total number of marks that can be obtained = 100.

Therefore, passing marks = 40.

Let the marks scored by A = x

If A had scored 100% more marks, it implies that he would have to score twice the marks that he scored i.e. 2x

Hence, from the given condition, 2x + 2 = 40

Therefore, x = 19

Thus, he scored 19% of the total possible marks.

Hence, option B.

1. **(C)** Assume that Sally invited x boys and x girls. When she wound up with x girls and x+5 boys, the girl: boy ratio was 4:5. So,

Sally invited 40 people (20 boys and 20 girls).

1. **** . If 80% were rejected, 20% were accepted and the ratio of accpted to rejected is 20:80 =1:4.
2. **(A)** Assume that to start there were 3x red marbles and 5x blue ones and that y marbles of each color were added.

Quantity A Quantity B

 

Cross-multiply 5(3x+y) 3(5x+y)

Distribute: 15x+5y 15x+3y

Subtract 15x: 5y 3y

Since y is positive, Quantity A is greater.

1. **(D)**.Let the CP of the article be x.

Since, the shopkeeper sold the article at a loss of 8%, the SP of the article=0.92x

But if the shopkeeper had sold the article for $ 540 more, he would have made a profit of 10%.

In that case, SP=1.1x

Therefore, 1.1x-0.92x=540

Therefore, 0.18x=540

Therefore, x=3000

Therefore, The CP of the article is $3000.

1. **16.**For a profit of 25%, SP of 20 sweets =1 x 1.25 = $1.25

Number of sweets to be sold for $ 1.25 =20

Number of sweets to be sold for $1 =20/1.25=16

Therefore, For a dollar, **16** sweets should be sold.

**Alternatively,**

Percentage Profit=

where x is the Selling Price of one sweet.

Therefore, (20x – 1) x 100 =25

Therefore, 

Therefore, 

i.e. the Selling Price of one sweet is $ 1\16.

Therefore, For $ 1, he must sell **16** sweets.

1. **(E)**Let Vinod’s share be x.

Therefore, 6x = 10 x (Vinay’s share)

Vinay’s share = 3x/5

Similary, Vinit’s share =6x/5

Therefore, x + (3x/5) + (6x/5) = 14x/5 = 798

x = (798/14) x 5 = 57 x 5 = 285

Hence, option E.

**Alternatively**,

Let the share of Vinod, Vinay and Vinit be a, b, and c respectively.

Hence, 6a = 10b and 6a = 5c

Hence, 6a = 10b = 5c.

Hence, a: b: c = (10 x 5): (6 x 5): (6 x 10) = 50: 30: 60 = 5: 3: 6

Hence, Vinod’s share = (5/14) x 798 = 285

Hence, Vinod’s share was $285.

Hence, option E.

1. **(B)**If the price of a commodity decrease by a%, then the percentage increase in the consumption, so that the expenditure remains the same is:



Therefore, increase in consumption



=42.86%

Hence, option B.

1. **4400**.The number of applicants in 1989 was 5060 / 1.15 = **4400.**
2. **(A)**.Assume that in 1985 the population of each town was 100. Then, since 60% of 100 is 60, in 1995, the populations were 100 + 60 = 160 and 100 – 60 = 40. So, in 1995, town B’s population was  of town A’s (A).
3. **(B)** Assume that a loaf of bread used to cost $1 and that now it costs $1.20 (20% more). Then 300 loaves of bread used to cost $300. How many loaves costing $1.20 each can be bought for $300?, 300/1.20=250.
4. **(B)** Assume that Mrs. Fisher usually contributed $100 each month, for an annual total of $1200. Having decided not to contribute for 2 months, the $1200 will have to be paid in 10 monthly deposits of $120 each. This is an increase of $20, and a percent increase of



1. **(E)**Let the CP for 1000 gms be $ x.

The shopkeeper marks up the price by 20%

The MP for 1000 gms = 1.2 x

The shopkeepe’s blance shows 1 kg for 900 gms.

But as shopkeeper sels only 900 gms for the price of 1000 gm, the actual SP of 1000 gms = 1.2x X (1000/900)

Actual SP = 12x/9 = 1.33x

Therefore, the marked price is 33.33% over the cost price.

Gain percentage = 33/33%

Hence, option E.