Date Interpretation Table Chart Questions for IBPS PO Pre, SBI PO Pre, IBPS Clerk Mains, SBI Clerk Mains, IBPS SO Pre and RRB Scale I Pre Exams.

Word Problems Quiz 3

Direction: Study the following questions carefully and choose the right answer.

1. A fruit vendor sells apples and oranges and gets equal revenue from each. He gets a profit of 20% on each apple and a profit of 25% on each orange. If the ratio of the number of oranges sold to the number of apples sold is 3 : 2, what is the ratio of the cost price of an orange to that of an apple?

A. 25 : 16 B. 16 : 25 C. 36 : 25 D. 49 : 36 E. 36 : 49

Direction : Read the given information carefully and answer the questions given beside: (A set of 2 questions)

Tank at a water supply station is filled with water by several pumps. At first, three pumps of the same capacity are turned on. 2½ hours later, two more pumps (both of same efficiencies) of a different capacity are set into operation. After 1 hour, the tank was almost filled to its capacity (15m^3 were still lacking). In another hour the tank was full. One of the two additional pumps could have filled the tank in 40 hours. (Set of 2 questions)

2. What is the volume of the tank?

A. 60 m^3 B. 80 m^3 C. 75 m^3 D. 90 m^3 E. None of these

3. How much water does one of the first three pumps fills in an hour?

A. 5 m^3 B. 4 m^3 C. 3 m^3 D. 2 m^3 E. None of these

4. A man can swim to a place 120 km distant and come back in 35 hours. He finds that he he can swim 6 km against the stream in the same time as 8 km with the stream. Find the ratio of speed of man in still water to that of stream?

A. 5 :2 B. 4 : 7 C. 7 : 1 D. 2 : 9 E. None of these

5. In how many ways can the walls of a cuboidal box be painted using six different colours using one colour for each wall if six different symbols are carved on the box with one on each wall?

A. 240 B. 560 C. 720 D. 360 E. 180

6. There are two mixtures of alcohol and water. In 48 L of first mixture 32 L is alcohol while in 32 L of second mixture 20 L is alcohol. If these mixtures are mixed in a large container in such a way that per cent of water in final mixture becomes 36.8%, then find that in what ratio these two mixtures are mixed to form final mixture?

A. 2 : 5 B. 21 : 104 C. 201 : 104 D. 201 : 14 E. None of these

7. The sum of ages of Rahul and Ravi is equal to sum of the ages of Nitin and Nishant ten years from now. Ravi is older than Nishant by 5 years. The ratio of age of Nitin and Ravi is 3 : 2. If the sum of ages of Rahul and Nitin was 47 five years before, find the age of Rahul at present.

A. 39 years B. 35 years C. 37 years D. 36 years E. 38 years

8. A shopkeeper buys an article from a wholesaler. The shopkeeper marks up the price by 15% on the listed price. A person pays Rs.7590 to get it after paying sales tax at the rate of 10% on the price asked for. If shopkeeper has bought it at a discount of 20% on the listed price, then what is the profit percentage of the shopkeeper?

A. 52.56 B. 43.75 C. 37.89 D. 39.45 E. None of these

9. Out of total members 100/3 % are in room A and remaining are in room B. If 20 members from room B are shifted to room A, then total members in room A becomes 50% of total members. If 20 members from room A are shifted to room B, then find that total members in room A becomes what per cent of total members?

A. 26.34% B. 16.67% C. 12.75% D. 20.67% E. None of these

10. A dealer incurred a loss of 20%, when he allowed a discount of 25% on marked price of an article. Then what per cent discount should he allow on the marked price so as to gain Rs. 900 on the article, if the marked price of the article is Rs. 40,000?

A. 5% B. 7% C. 6% D. 3% E. None of these

Correct Answers:

1	2	3	4	5	6	7	8	9	10
B	A	B	C	C	B	D	B	B	E

Explanations:

1. Let P be revenue from each apple and orange.

Cost of apples = $P \times \frac{100}{120} = \frac{5P}{6}$

Cost of oranges = $P \times \frac{100}{125} = \frac{4P}{5}$

Let the number of apples sold by the fruit vendor be 2n, then the number of oranges sold would be 3n.

Cost price of each apple = $\frac{1}{2n} \times \frac{5P}{6} = \frac{5P}{12n}$

Cost price of each orange = $\frac{1}{3n} \times \frac{4P}{5} = \frac{4P}{15n}$

Therefore, reqd. ratio = $\frac{4P}{15n} : \frac{5P}{12n} = 16 : 25$

Hence, option B is correct.

2. Let the total capacity of the tank be V

Let A, B, C are three pipes with same efficiency which is assumed to be x

All three working together can fill x + x + x = 3x in one hour

They are working for $2\frac{1}{2}$ hours

So, they filled = $3x \times 2\frac{1}{2} = \frac{15x}{2}$

Now, let D, E be the additional pipe with efficiency be y

Now, all five pipes are filling for 1 more hour = 3x + 2y

Total filled m^3,

$\frac{15x}{2} + 3x + 2y = V - 15$

$\Rightarrow 3x \times \frac{7}{2} + 2y = V - 15$

$\Rightarrow 21x + 4y - 2V = -30$ **.....1**

In next 1 hour tank is full,

$3x + 2y = 15$ **.....2**

Given that D or E filled the tank in 40 hours,

Efficiency × time = total capacity $\Rightarrow y \times 40 = V$.....3

Solving above equation,

$V = 60m^3$, $x = 4\ m^3$

Hence option (A) is correct.

3. Following the explanation given for the previous question, efficiency of A, B, C (each of these three pipes) in 1st hour is 4 m^3/hour

Hence, option (B) is correct.

---

4. Let he moves 8 km downstream in x hours.

Downstream speed = $\frac{8}{x}$

Upstream speed = $\frac{6}{x}$

Then,

$$\Rightarrow \frac{120}{8/x} + \frac{120}{6/x} = 35$$

$$\Rightarrow 120 \times \frac{7x}{24} = 35$$

$\Rightarrow 35x = 35$

$\Rightarrow x = 1$

Then downstream speed = 8 km/h

Upstream speed = 6 km/h

$U = \frac{8 + 6}{2} = 7$ km/h

$V = \frac{8 - 6}{2} = 1$ km/h

Required ratio = 7 : 1

Hence, option C is correct.

---

5. No. of ways in which the walls of the box can be painted using six different colours = 6! = 720.

Hence, option C is correct.

6. Let the ratio in which 2 mixtures are mixed = x : y.
Per cent of water in the final mixture = 36.8%

Per cent of water in first mixture $= \frac{48-32}{48} \times 100 = \frac{100}{3}\%$

Per cent of water in second mixture $= \frac{32-20}{32} \times 100 = 37.5\%$

By the rule of allegation-

$\Rightarrow$ Ratio $= \frac{\text{Water in second} - \text{Water in final}}{\text{Water in final} - \text{Water in first}}$

$\Rightarrow x : y = \frac{37.5 - 36.8}{36.8 - \frac{100}{3}}$

$\Rightarrow x : y = \frac{0.7}{\frac{10.4}{3}}$

$= 2.1 : 10.4 = 21 : 104$

Hence, option B is correct.

7. Let, age of Nitin = 3x
Thus, age of Ravi = 2x
And age of Nishant = 2x – 5
Let, age of Rahul = a
Now, according to the question,
a – 5 + 3x – 5 = 47
$\Rightarrow$ a = 57 – 3x
Now,
57 – 3x + 2x = 3x + 10 + 2x – 5 + 10
$\Rightarrow$ 6x = 42
$\Rightarrow$ x = 7
Therefore, age of Rahul, a = 57 – 3 × 7 = 57 – 21 = 36 years
Hence, Option D is correct.

8. Let the listed price = Rs.100
CP of shopkeeper = 100 – 20 = Rs.80
Marked price by shopkeeper = 100 + 15 = Rs.115
Now,

$$115 = 7590 \times \frac{100}{110} = 6900$$

$$\Rightarrow 80 = \frac{6900}{115} \times 80 = \text{Rs.}4800$$

CP of shopkeeper = Rs.4800
Profit = 6900 – 4800 = Rs.2100

$$\text{Profit \%} = \frac{2100}{4800} \times 100 = 43.75\%$$

Hence, option B is correct.

---

9. Let total members = N

$$\text{Members in room A} = 33\frac{1}{3}\% \text{ of } N = \frac{N}{3}$$

$$\text{Members in room B} = N - \frac{100N}{3} = \frac{2N}{3}$$

According to question-

$$\Rightarrow \frac{N}{3} + 20 = \frac{N}{2}$$

$$\Rightarrow 20 = \frac{N}{6}$$

$$\Rightarrow N = 120$$

Now, if 20 members from room A are shifted to room B-

$$\Rightarrow \frac{\frac{N}{3} - 20}{N} \times 100 = \frac{20}{120} \times 100 = 16.67\%$$

Hence, option B is correct.

---

10. SP when 25% discount is allowed = 75% of 40,000 = Rs. 30,000

$$\text{CP when there is loss of 20\%} = 30000 \times \frac{100}{80} = \text{Rs. } 37500$$

SP to gain Rs.900 = Rs. (37500 + 900) = Rs. 38400
New Discount = Rs. (40000 – 38400) = Rs. 1600

$$\text{Discount \%} = 1600 \times \frac{100}{40000} = 4\%$$

Hence, option E is correct.