

Quantitative Techniques

PASSAGE 1

In an e-commerce organisation consisting of 1500 employees the ratio of males to females is 3 : 2. The organization consists of 5 departments namely Tech, HR, Sales, Support and Finance. All the employees work in one of these five different departments. 20% of the females work in HR while only 16% of males work in HR. $\frac{2}{5}$ th of the females are in the Support. 20% of the total numbers of employees are working in Support. The ratio of males to females in the Sales department is 4 : 1 respectively. 18% of the males are in Tech. Females working in Finance are 50% of the males working in the same Department. 22% of the males work Finance department.

1. What is the number of males in the Support department?

- (A) 84
- (B) 60
- (C) 64
- (D) None of the above

2. What is the number of females in the Sales department?

- (A) 84
- (B) 96
- (C) 336
- (D) None of the above

3. What is the number of females in the Tech department?

- (A) 47
- (B) 57
- (C) 87
- (D) None of the above

4. The number of males working in Sales department forms what per cent of total number of the employees in the organisation?

- (A) 21.5
- (B) 22.4
- (C) 33.33
- (D) 24.8

5. The number of males working in Support department forms what per cent of the number of females working in the same department?

- (A) 20
- (B) 15
- (C) 25
- (D) 30

6. What is the total number of employees working in the Sales department?

- (A) 410
- (B) 336
- (C) 420
- (D) 376

PASSAGE 2

There are two fares: Rainbow Fun Fare and Star Kids Fare. Both the fares have four different types of rides namely Giant Wheel, Columbus, Roller Coaster and Swing Chair. All the rides are meant only for kids. 1200 kids participated in Rainbow Fun Fare while 25% more kids participated in Star Kids Fare. No kid participated in both the fares. Each kid was allowed to take only one ride out of the four and each kid who participated took exactly one ride of only one type. 20% of kids in Rainbow Fun Fare took the ride Giant Wheel. One-sixth of the total number of kids of Rainbow Fun Fare took the ride Columbus. 30% of kids in Rainbow Fun Fare took the Roller Coaster ride. Remaining kids of Rainbow Fun Fare took the Swing Chair ride. The ratio of number of kids who participated in Columbus ride in Rainbow Fun Fare and Star Kids Fare is 2 : 3. The total number of kids who took Roller Coaster ride in both fares is 700. The number of kids who took Swing Chair ride in Star Kids Fare is 30% more than that in Rainbow Fun Fare. The remaining kids who participated in Star Kids Fare took the Giant Wheel ride. The cost of per ride for Giant Wheel, Columbus, Roller Coaster & Swing Chair is Rs.150, Rs.120, Rs.250 & Rs.180 respectively. The same rates are applicable for both the fares.

7. What is the ratio between the number of kids who took the Roller Coaster ride in Rainbow Fun Fare and Star Kids Fare?

- (A) 13:17
- (B) 18:17
- (C) 16:19
- (D) 11:17

8. What is the total number of kids who took the Giant Wheel ride in both the fares together?

- (A) 480
- (B) 450
- (C) 580
- (D) 680

9. What is the difference between the numbers of kids who took the Swing Chair ride of both the fares?

- (A) 100
- (B) 110
- (C) 130
- (D) 120

10. What total amount is generated from Giant Wheel ride from Star Kids Fare?

- (A) Rs.36000
- (B) Rs.51000
- (C) Rs.45000
- (D) None of these

11. What total amount is generated from Roller Coaster ride from both fares together?

- (A) Rs.180000
- (B) Rs.174000
- (C) Rs.175000
- (D) None of these

12. What is the difference in amount generated from Columbus ride from both the fares?

- (A) Rs.12000
- (B) Rs.60000
- (C) Rs.50000
- (D) None of these

Quantitative Techniques

Q. No. 1-6 Detailed Explanation:

1500 employees are there in the organization and the ratio of males to females is 3 : 2 respectively.

So, number of males = $\frac{3}{5} \times 1500 = 900$ and number of females = $\frac{2}{5} \times 1500 = 600$

20% of the females work in HR i.e. number of females in HR = 20% of 600 = 120

16% of males work in HR i.e. number of males in HR = 16% of 900 = 144

2/5th of the females are in the Support i.e. number of females in Support = $\frac{2}{5} \times 600 = 240$

But it is mentioned that 20% of the total numbers of employees are working in Support i.e. total employees in Support department = 20% of 1500 = 300,

So, number of males in Support department = 300 – 240 = 60

18% of the males are in Tech i.e. number of males in Tech department = 18% of 900 = 162

22% of the males work in Finance department i.e. number of males in Finance department = 22% of 900 = 198

Since, the number of females working in Finance is 50% of the males working in the same Department i.e. number of females in Finance department = 50% (198) = 99

Now,

Number of males in Sales department = 900 – (144 + 60 + 162 + 198) = 336

Since, number of males to females in sales department is 4 : 1 respectively, therefore, number of females = 336/4 = 84

So,

Number of females in Tech department = 600 – (120 + 240 + 99 + 84) = 57

Common explanation:

1. Ans. b

Sol. (B) As per the explanation above, the number of males in Support is 60.

2. Ans. a

Sol. (A) As per the explanation above, the number of females in Sales is 84.

3. Ans. b

Sol. (B) As per the explanation above, the number of females in Tech. is 57.

4. Ans. b

Sol. (B) Required percentage = $336/1500 \times 100$

22.4%

5. Ans. c

Exp. (C) Required percentage = $60/240 \times 100$

25%

NOTE:- (A) given by clat Official answer key

6. Ans. C **suggested answer**

Sol. (C) Total number of employees in Sales = 336 + 84 = 420

Q. No. 7-12 Detailed Explanation

1200 kids participated in Rainbow Fun Fare while 25% more kids participated in

Star Kids Fare i.e. number of kids who participated in Star Kids Fare = 1200 + 400

25%(1200) = 1500

Now, for Rainbow Fun Fare

Number of kids who took Giant Wheel Ride = 20%(1200) = 240

Number of kids who took Columbus Ride =

$$\times 1200 = 200$$

Number of kids who took Roller Coaster Ride = 30% (1200) = 360

So, number of kids who took Swing Chair Ride = $1200 - (240 + 200 + 360) = 400$

Now, for Star Kids Fare

Since, the ratio of number of kids who participated in Columbus ride in Rainbow Fun Fare and Star Kids Fare is 2 : 3, therefore,

Number of kids who took Columbus Ride =

$$\times 200 = 300$$

Also, the total number of kids who took Roller Coaster ride in both fares is 700.

So, number of kids who took Roller Coaster ride = $700 - 360 = 340$

Further, the number of kids who took Swing Chair ride in Star Kids Fare is 30% more than that in Rainbow Fun Fare.

So, number of kids who took Swing Chair ride = $400 + 30\%(400) = 400 + 120 = 520$

Therefore,

Number of kids who took Star Kids ride = $1500 - (300 + 340 + 520) = 340$

Common explanation:

7. Ans. b

Sol. (B) As per explanation above, the required ratio = $360 : 340 = 18 : 17$

8. Ans. c

Sol. (C) As per explanation above, Required total = $240 + 340 = 580$

9. Ans. d

Sol. (D) As per explanation above, Required difference = $520 - 400 = 120$

10. Ans. b

Sol. (B) Required Amount = $340 \times \text{Rs.}150 = \text{Rs.}51000$

11. Ans. c

Sol. (C) Required Amount = $(360 + 340) \times \text{Rs.}250 = \text{Rs.}175000$

12. Ans. a

Sol. (A) Required Difference in Amount = $300 \times \text{Rs.}120 - 200 \times \text{Rs.}120 = \text{Rs.}36000 - \text{Rs.}24000 = \text{Rs.}12000$