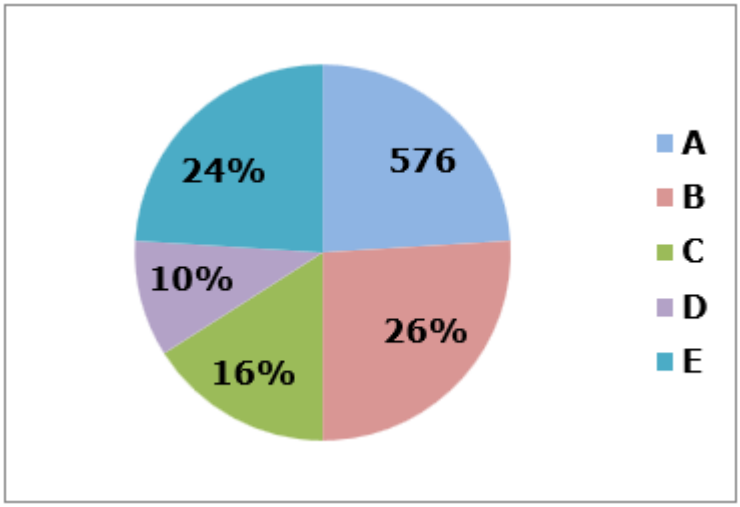
1. Questions

Study the following information carefully and answer the questions.

The given pie chart shows the percentage distribution of the total number of staff (managers + clerks) working in five different offices namely A, B, C, D and E.



The given table chart shows the number of managers in five different offices namely A, B, C, D and E.

Offices	The number of managers
A	360
B	300
C	250
D	60
E	276

Out of the total number of clerks in offices A and D together, 25% are females and the restare males. If the number of male clerks in office D is 25 less than that of office A, then the number of female clerks in office D is what percentage of the number of managers in office C?

a. 62.5%

b. 33.33%

c. 17.6%

d. 42.56%

e. 25.2%

2. Questions

If the number of managers in office F is 14% more than that of office B and the ratio of the number of managers to clerks in office F is 3:8, then find the difference between the total number of staff (managers + clerks)in offices C and F.

a. 1050

rohitsinkhala04@gmail.com

b. 870

c. 978

d. 1080

e. 995

3. Questions

If the number of assistant managers in office C is 20% more than the number of managersin that office and the number of assistant managers in office D is 110 more than the total number of staff in office D, then find the average number of assistant managers in offices C and D.

a. 225

b. 360

c. 480

d. 670

e. 325

4. Questions

Find the ratio of the number of clerks in office B to the total number of managers in offices D and E together.

a. 23:27

b. 21:23

c. 27:28

d. 19:17

e. 21:19

5. Questions

Find the average number of clerks in all five offices.

a. 231

b. 234.8

c. 199.8

d. 230.8

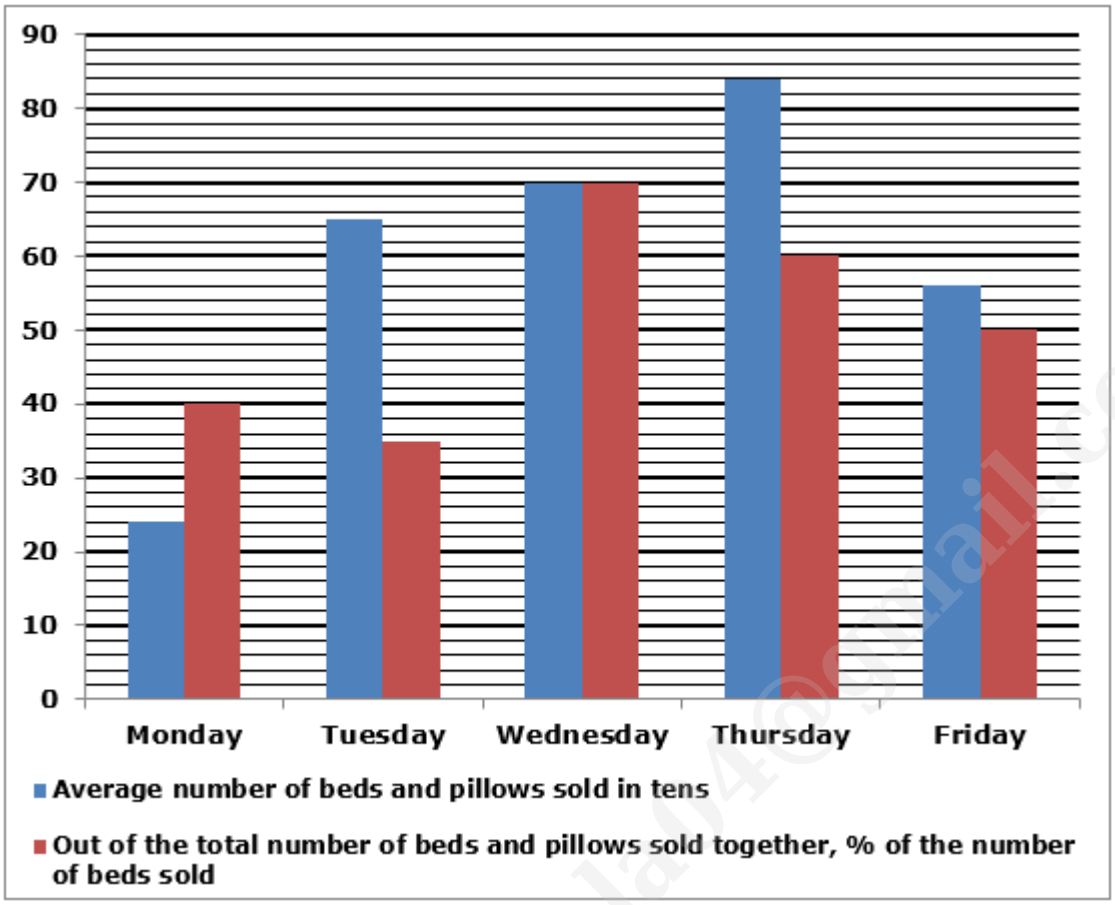
e. 214

6. Questions

Study the following information carefully and answer the questions.

rohitsankhala04@gmail.com

The given bar graph shows the average number of beds and pillows sold on five different days namely Monday, Tuesday, Wednesday, Thursday and Friday and also given the percentage of thenumber of beds sold on these five days.



In all five days, two types of pillows are sold: cotton and wool. The ratio of the number of cotton pillows and wool pillows sold on Wednesday to Friday is 3:2 and 1:2 respectively. Find the number of cotton pillows sold on Friday.

a. 180

b. 210

c. 420

d. 140

e. 350

7. Questions

If the number of pillows sold on Saturday is 16.66% less than that on Thursday and the number of beds sold on Friday is 20% less than that on Saturday, then find the difference between the number of beds and pillows sold on Saturday.

a. 140

b. 120

c. 190

d. 80

e. 150

8. Questions

Find the ratio of the number of pillows sold on Thursday to the number of beds sold on Tuesday.

a. 25:72

b. 42:53

c. 96:65

d. 36:55

e. 29:37

9. Questions

The number of beds sold on Wednesday is what percentage is more or less than the number of pillows sold on Friday.

a. 70% more

b. 62% less

c. 75% more

d. 66% less

e. 89% more

10. Questions

The total number of curtains and beds sold together on Tuesday is (x + 295) and the number of curtains sold on Tuesday is 25% more than the number of beds sold on Monday. If the total number of curtains sold on Tuesday and Wednesday together is (x + 300), then find the number of curtains sold on Wednesday.

a. 420

b. 460

c. 380

d. 320

e. 200

11. Questions

Read the following information carefully and answer the questions.

A certain number of students are who attended a conference in four different schools namely A, B, C and D. The total number of students who attended the conference in schools B and C is 100 and 200

rohitsankhala04@gmail.com

respectively. The ratio of the number of male students and female students who attended the conference in school B to school C is 1:3 and 3:4 respectively. The number of female students who attended the conference in schools A and B are equal. The ratio of the number of male students who attended the conference in school D to the number of female students who attended the conference in school A is 7:6. The total number of students who attended the conference in schools A and D together is 300. The number of female students who attended the conference in school D is 50 more than the number of male students who attended the conference in school A.

In school D, 40% of the students attended the Science conference and the rest attended the Math conference. If the number of male students who attended the Math conference in school D is 1/4th of the total number of male students who attended the conference in school B, then find the number of female students who attended the Science conference in school D.

a. 10

b. 12

c. 22

d. 18

e. 25

12. Questions

The totalnumber of students who attended the conference in school E is x% more than that of school A and the number of male students who attended the conference in school E to school B is (x/10):2. If the total number of students who attended the conference in schools E and B together is 280, then find the number of female students who attended the conference in school E.

a. 20

b. 90

c. 45

d. 80

e. 70

13. Questions

Find the sum of the number of male students who attended the conference in schools C and D.

a. 180

b. 190

c. 210

d. 220

e. 160

rohitsankhla04@gmail.com

14. Questions

Find the ratio of the number of female students who attended the conference in school A to the number of male students who attended the conference in school B.

a. 3:2

b. 2:1

c. 4:5

d. 3:4

e. 2:7

15. Questions

Out of the total number of students who attended the conference in school D, 20% are from class 10^{th}, 35% are from class 8^{th} and the remaining students are from class 12^{th}. Find the difference between the total number of students who attended the conference from classes 10^{th} and 12^{th} together in school D and the number of students who attended the conference from class 8^{th} in that school.

a. 72

b. 96

c. 56

d. 35

e. 54

16. Questions

Vino invested Rs.(x+2500) in scheme A at 15% per annum in simple interest for 3 years and he also invested Rs.(x+1000) in scheme B at 20% per annum in compound interest for 2 years. If the interest received by Vino in scheme A is Rs.735 more than that of scheme B, then find the value of x.

a. 6200

b. 5000

c. 4800

d. 2500

e. 3600

17. Questions

A, B, and C entered into a business by investing in the ratio of 4:7:6 respectively. After 6 months, A left the business and after 8 months, B increased his investment by Rs.200. If at the end of the year

the ratio of the profit share of B to C is 25:18, then find the initial investment of A.

a. Rs.200
b. Rs.350
c. Rs.400
d. Rs.300
e. Rs.490

18. Questions

Two mixtures A and B contain milk and water and the sum of the quantities of both mixtures is 780 litres. The ratio of the quantity of milk and water in mixture A to mixture B is 4:5 and 5:7 respectively. If the quantity of mixture B is 120 liters more than that of mixture A, then find the quantity of milk in mixture A.

a. 85 litres
b. 72 litres
c. 80 litres
d. 99 litres
e. 70 litres

19. Questions

The ratio of the present age of A to B is 2:3. The ratio of the age of A after 3 years to the age of B after7 years is 5:8 and the present age of C is one time more than the difference between the present ages of A and B. Find the present age of C.

a. 21 years
b. 33 years
c. 22 years
d. 18 years
e. 20 years

20. Questions

The ratio of the marked price of Article A to the cost price of Article B is 5:3. Article A is sold after giving a discount of 20% on its marked price and the difference between the marked and selling prices of Article A is Rs.225. Find the selling price of Article B when it is sold at a profit of 20%.

a. Rs.790
b. Rs.810
c. Rs.965

rohitsankala04@gmail.com

d. Rs.880

e. Rs.600

21. Questions

The time taken by the boat to travel 192 km upstream is the same as the time taken by it to travel 320 km downstream. If the boat travels 192 km in still water in 6 hours, then find the speed of the stream.

a. 4 km/hr

b. 10 km/hr

c. 5 km/hr

d. 12 km/hr

e. 8 km/hr

22. Questions

A and B together can complete a certain work in 42 days. B and C together can do the same work in 40 days. If C is 40% more efficient than A, then find the ratio of the efficiency of A, B and C.

a. 5:35:7

b. 7:35:5

c. 4:35:7

d. 5:30:7

e. 21:7:5

23. Questions

The area of the square is 256 cm^2 and the ratio of the perimeter of the square to the equilateral triangle is 8:3. If the side of the equilateral triangle is decreased by 25%, then find the new area of the equilateral triangle (Note: $\sqrt{3}=2$).

a. 24 cm^2

b. 18 cm^2

c. 32 cm^2

d. 13 cm^2

e. 19 cm^2

24. Questions

rohitsankhala04@gmail.com

A train crosses a pole in 12 seconds, while it crosses 420 metersplatform in 33 seconds. The same train crosses y meters tunnel in 22.5 seconds.If the speed of the train is increased by 45%, then find the time taken by the train to cross(y +14) meters bridge.

a. 31 seconds

b. 20 seconds

c. 16 seconds

d. 15 seconds

e. 21 seconds

25. Questions

In a cricket match, the ratio of the runs scored by teams A, B and C is 2:3:2 respectively. The runs scored by team D is 30% of the total runs scored by teams A, B, C and D together. Find 20% of the total runs scored by teams A and B together if the runs scored by team D is 210.

a. 70

b. 60

c. 80

d. 120

e. 10

26. Questions

What approximate value should come in the place of (?) in the following questions?

20.891 * 9.09 + 33.981 * √200 + ? = 865.09

a. 150

b. 200

c. 250

d. 300

e. 100

27. Questions

44.95% of 60.08 + √4760 * 3.92 = ?

a. 293

b. 321

c. 327

d. 303

rohitsankhala04@gmail.com

e. 284

28. Questions

17.12 * √674 + ? = 28.23 * √439

a. 146

b. 148

c. 150

d. 152

e. 154

29. Questions

14.97% of 419.92 + 35.05% of 340.19 = ?

a. 178

b. 172

c. 182

d. 188

e. 192

30. Questions

1619.89 ÷ √223 * 4.96 = $?^2$ + √120

a. 21

b. 22

c. 25

d. 23

e. 24

31. Questions

Find out the wrong number in the following number series.

12, 20, 48, 152, 608, 3088

a. 20

b. 608

c. 48

d. 3088

rohitsankhala04@gmail.com

e. 152

32. Questions

19, 42, 80, 131, 181, 238

a. 238

b. 80

c. 181

d. 42

e. 131

33. Questions

2, 20, 44, 78, 110, 152

a. 78

b. 152

c. 44

d. 110

e. 20

34. Questions

158, 134, 112, 92, 74, 56

a. 74

b. 112

c. 56

d. 134

e. 92

35. Questions

5, 7, 12, 24, 39, 65

a. 7

b. 65

c. 12

d. 39

e. 24

rohitsankhala04@gmail.com

36. Questions

In each of the following questions, two equations are given. You have to solve both the equations to find the relation between x and y.

I). $x^2 + 7x + 10 = 0$

II). $y^2 - 3y - 4 = 0$

a. $x < y$

b. $x > y$

c. $x \leq y$

d. $x \geq y$

e. x = y or Relationship between x and Y cannot be determined

37. Questions

I). $x^3 = 1728$

II). $y^2 + 256 = 400$

a. $x < y$

b. $x > y$

c. $x \leq y$

d. $x \geq y$

e. x = y or Relationship between x and Y cannot be determined

38. Questions

I). $3x + 2y = 47$

II). $2x + 5y = 46$

a. $x > y$

b. $x \geq y$

c. x = y or relationship can't be determined

d. $x \leq y$

39. Questions

I). $x^2 + 11x + 24 = 0$

II). $4y^2 + 13y + 10 = 0$

a. $x < y$

rohitsankhala04@gmail.com

b. $x > y$

c. $x \leq y$

d. $x \geq y$

e. $x = y$ or Relationship between x and y cannot be determined

40. Questions

I). $3x^2 - x - 2 = 0$

II). $4y^2 - 2y - 2 = 0$

a. $x < y$

b. $x > y$

c. $x \leq y$

d. $x \geq y$

e. $x = y$ or Relationship between x and y cannot be determined

Explanations:

1. Questions

The percentage of the total number of staff in office A = 100% – (26% + 16% + 10% + 24%) = 24%

The total number of staff in all offices together = 576 * 100/24 = 2400

The number of managers in office A = 360

The number of clerks in office A = 576 – 360 = 216

Similarly,

Offices	The total number of staff	The number of managers	The number of clerks
A	576	360	216
B	624	300	324
C	384	250	134
D	240	60	180
E	576	276	300

Answer: C

The total number of clerks in offices A and D together= (216 + 180) = 396

The total number of male clerks in offices A and D together = 396 * (100 – 25)/100= 297

rohitsaikhala04@gmail.com

The number of male clerks in office D = (297 – 25)/2 = 136

The number of female clerks in office D = 180 – 136 = 44

Required % = 44/250 * 100 = 17.6%

2. Questions

The percentage of the total number of staff in office A = 100% – (26% + 16% + 10% + 24%) = 24%

The total number of staff in all offices together = 576 * 100/24 = 2400

The number of managers in office A = 360

The number of clerks in office A = 576 – 360 = 216

Similarly,

Offices	The total number of staff	The number of managers	The number of clerks
A	576	360	216
B	624	300	324
C	384	250	134
D	240	60	180
E	576	276	300

Answer: B

The number of managers in office F = 300 * 114/100 = 342

The number of clerks in office F = 342 * 8/3 = 912

The total number of staff in office F = (912 +342) = 1254

Required difference = 1254 – 384 = 870

3. Questions

The percentage of the total number of staff in office A = 100% – (26% + 16% + 10% + 24%) = 24%

The total number of staff in all offices together = 576 * 100/24 = 2400

The number of managers in office A = 360

The number of clerks in office A = 576 – 360 = 216

Similarly,

rohitsankhala06@gmail.com

Offices	The total number of staff	The number of managers	The number of clerks
A	576	360	216
B	624	300	324
C	384	250	134
D	240	60	180
E	576	276	300

Answer: E

The number of assistant managers in office C = 250 * 120/100 = 300

The number of assistant managers in office D = 240 + 110 = 350

Required average= (300 + 350)/2 = 325

4. Questions

The percentage of the total number of staff in office A = 100% – (26% + 16% + 10% + 24%) = 24%

The total number of staff in all offices together = 576 * 100/24 = 2400

The number of managers in office A = 360

The number of clerks in office A = 576 – 360 = 216

Similarly,

Offices	The total number of staff	The number of managers	The number of clerks
A	576	360	216
B	624	300	324
C	384	250	134
D	240	60	180
E	576	276	300

Answer: C

The number of clerks in office B = 324

The total number of managers in offices D and E together = 276 + 60 = 336

Required ratio = 324:336 = 27:28

5. Questions

The percentage of the total number of staff in office A = 100% – (26% + 16% + 10% + 24%) = 24%

The total number of staff in all offices together = 576 * 100/24 = 2400

The number of managers in office A = 360

The number of clerks in office A = 576 – 360 = 216

Similarly,

Offices	The total number of staff	The number of managers	The number of clerks
A	576	360	216
B	624	300	324
C	384	250	134
D	240	60	180
E	576	276	300

Answer: D

The total number of clerks in all office together = (216 + 324 + 134 + 180 + 300) = 1154

Required average = 1154/5 = 230.8

6. Questions

The total number of beds and pillows sold together on Monday = 240 * 2 = 480

The number of beds sold on Monday = 480 * 40/100 = 192

The number of pillows sold on Monday = 480 * 60/100 = 288

Similarly,

Days	The total number of beds and pillows sold	The number of beds sold	The number of pillows sold
Monday	480	192	288
Tuesday	1300	455	845
Wednesday	1400	980	420
Thursday	1680	1008	672
Friday	1120	560	560

Answer: D

Let, the number of cotton pillows sold = x

The number of wool pillows sold = y

3x + y = 420 ---> (1)

2x + 2y = 560 ---> (2)

By solving equation (1) and (2), we get

x = 70, y = 210

The number of cotton pillows sold on Friday = 2 * 70 = 140

7. Questions

The total number of beds and pillows sold together on Monday = 240 * 2 = 480

The number of beds sold on Monday = 480 * 40/100 = 192

The number of pillows sold on Monday = 480 * 60/100 = 288

Similarly,

Days	The total number of beds and pillows sold	The number of beds sold	The number of pillows sold
Monday	480	192	288
Tuesday	1300	455	845
Wednesday	1400	980	420
Thursday	1680	1008	672
Friday	1120	560	560

Answer: A

The number of pillows sold on Saturday = 672 * (100 – 16.66)/100 =672 × (5/6) = 560

The number of beds sold on Saturday = 560 * 100/(100 – 20) = 560 * 100/80 = 700

Required difference= (700 -560) = 140

8. Questions

The total number of beds and pillows sold together on Monday = 240 * 2 = 480

The number of beds sold on Monday = 480 * 40/100 = 192

The number of pillows sold on Monday = 480 * 60/100 = 288

Similarly,

Days	The total number of beds and pillows sold	The number of beds sold	The number of pillows sold
Monday	480	192	288
Tuesday	1300	455	845
Wednesday	1400	980	420
Thursday	1680	1008	672
Friday	1120	560	560

Answer: C

The number of pillows sold on Thursday = 672

The number of beds sold on Tuesday = 455

Required ratio = 672:455 = 96:65

9. Questions

The total number of beds and pillows sold together on Monday = 240 * 2 = 480

The number of beds sold on Monday = 480 * 40/100 = 192

The number of pillows sold on Monday = 480 * 60/100 = 288

Similarly,

Days	The total number of beds and pillows sold	The number of beds sold	The number of pillows sold
Monday	480	192	288
Tuesday	1300	455	845
Wednesday	1400	980	420
Thursday	1680	1008	672
Friday	1120	560	560

Answer: C

The number of beds sold on Wednesday = 980

The number of pillows sold on Friday = 560

Required percentage = (980 – 560)/560 * 100 =(420/560) * 100 = 75% more

10. Questions

The total number of beds and pillows sold together on Monday = 240 * 2 = 480

The number of beds sold on Monday = 480 * 40/100 = 192

The number of pillows sold on Monday = 480 * 60/100 = 288

Similarly,

Days	The total number of beds and pillows sold	The number of beds sold	The number of pillows sold
Monday	480	192	288
Tuesday	1300	455	845
Wednesday	1400	980	420
Thursday	1680	1008	672
Friday	1120	560	560

Answer: B

The number of curtains sold on Tuesday = 192 * 125/100 = 192 ×(5/4) = 240

The total number of curtains and beds sold together on Tuesday = 240 + 455 = 695

(x + 295) = 695

x = 400

The total number of curtains sold on Tuesday and Wednesday together = 700

The number of curtains sold on Wednesday = 700 – 240 = 460

11. Questions

The total number of students who attended the conference in school B = 100

The total number of students who attended the conference in school C = 200

Let, the number of male students who attended the conference = x

The number of female students who attended the conference = y

x + 3y = 100 ----> (1)

3x + 4y = 200 ----> (2)

By solving, equations (1) and (2), we get

x = 40, y = 20

The number of male students who attended the conference in school B = 40

The number of female students who attended the conference in school B = 3 * 20 = 60

The number of male students who attended the conference in school C = 3 * 40 = 120

The number of female students who attended the conference in school C = 4 * 20 = 80

The number of female students who attended the conference in school A = 60

The number of male students who attended the conference in school D = 60 * 7/6 = 70

Let the number of male students who attended the conference in school A be z.

And the number of female students who attended the conference in school D = z + 50

z + (z + 50) = 300 – (60 + 70)

2z = 170 – 50

z = 120/2 = 60

The number of male students who attended the conference in school A = 60

The number of female students who attended the conference in school D =50 + 60 = 110

The total number of students who attended the conference in school A = 60 + 60 = 120

The total number of students who attended the conference in school D = 70 + 110 = 180

rohitsanwal04@gmail.com

Schools	The total number of students who attended the conference	The number of male students who attended the conference	The number of female students who attended the conference
A	120	60	60
B	100	40	60
C	200	120	80
D	180	70	110

Answer: B

The total number of students who attended the conference in school D = 180

The number of students who attended the Maths conference in school D = 180 * (100 – 40)/100 = 108

The number of male students who attended the Maths conference in school D= 40/4 = 10

The number of female students who attended the Maths conference in school D= 108 – 10 = 98

The number of female students who attendedthe Science conference in school D = 110 – 98 = 12

12. Questions

The total number of students who attended the conference in school B = 100

The total number of students who attended the conference in school C = 200

Let, the number of male students who attended the conference = x

The number of female students who attended the conference = y

x + 3y = 100 ----> (1)

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By solving, equations (1) and (2), we get

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The number of male students who attended the conference in school B = 40

The number of female students who attended the conference in school B = 3 * 20 = 60

The number of male students who attended the conference in school C = 3 * 40 = 120

The number of female students who attended the conference in school C = 4 * 20 = 80

The number of female students who attended the conference in school A = 60

The number of male students who attended the conference in school D = 60 * 7/6 = 70

Let the number of male students who attended the conference in school A be z.

And the number of female students who attended the conference in school D = z + 50

z + (z + 50) = 300 – (60 + 70)

2z = 170 – 50

z = 120/2 = 60

The number of male students who attended the conference in school A = 60

The number of female students who attended the conference in school D =50 + 60 = 110

The total number of students who attended the conference in school A = 60 + 60 = 120

The total number of students who attended the conference in school D = 70 + 110 = 180

Schools	The total number of students who attended the conference	The number of male students who attended the conference	The number of female students who attended the conference
A	120	60	60
B	100	40	60
C	200	120	80
D	180	70	110

Answer: D

The totalnumber of students who attended the conference in school E = 280 – 100 = 180

180 = 120 * (100+x)/100

x = 50

The ratio of the number of male students who attended the conference in school E to school B = (50/10):2 = 5:2

The number of malestudents who attendedthe conference in school E = 40 * (5/2) = 100

The number of femalestudents who attendedthe conference in school E = 180 – 100 = 80

13. Questions

The total number of students who attended the conference in school B = 100

The total number of students who attended the conference in school C = 200

Let, the number of male students who attended the conference = x

The number of female students who attended the conference = y

x + 3y = 100 ----> (1)

3x + 4y = 200 ----> (2)

By solving, equations (1) and (2), we get

x = 40, y = 20

The number of male students who attended the conference in school B = 40

The number of female students who attended the conference in school B = 3 * 20 = 60

The number of male students who attended the conference in school C = 3 * 40 = 120

The number of female students who attended the conference in school C = 4 * 20 = 80

The number of female students who attended the conference in school A = 60

The number of male students who attended the conference in school D = 60 * 7/6 = 70

Let the number of male students who attended the conference in school A be z.

And the number of female students who attended the conference in school D = z + 50

z + (z + 50) = 300 – (60 + 70)

2z = 170 – 50

z = 120/2 = 60

The number of male students who attended the conference in school A = 60

The number of female students who attended the conference in school D =50 + 60 = 110

The total number of students who attended the conference in school A = 60 + 60 = 120

The total number of students who attended the conference in school D = 70 + 110 = 180

Schools	The total number of students who attended the conference	The number of male students who attended the conference	The number of female students who attended the conference
A	120	60	60
B	100	40	60
C	200	120	80
D	180	70	110

Answer: B

Required sum = (120 + 70) = 190

14. Questions

The total number of students who attended the conference in school B = 100

The total number of students who attended the conference in school C = 200

Let, the number of male students who attended the conference = x

The number of female students who attended the conference = y

x + 3y = 100 ----> (1)

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By solving, equations (1) and (2), we get

x = 40, y = 20

The number of male students who attended the conference in school B = 40

The number of female students who attended the conference in school B = 3 * 20 = 60

The number of male students who attended the conference in school C = 3 * 40 = 120

The number of female students who attended the conference in school C = 4 * 20 = 80

The number of female students who attended the conference in school A = 60

The number of male students who attended the conference in school D = 60 * 7/6 = 70

Let the number of male students who attended the conference in school A be z.

And the number of female students who attended the conference in school D = z + 50

z + (z + 50) = 300 – (60 + 70)

2z = 170 – 50

z = 120/2 = 60

The number of male students who attended the conference in school A = 60

The number of female students who attended the conference in school D =50 + 60 = 110

The total number of students who attended the conference in school A = 60 + 60 = 120

The total number of students who attended the conference in school D = 70 + 110 = 180

Schools	The total number of students who attended the conference	The number of male students who attended the conference	The number of female students who attended the conference
A	120	60	60
B	100	40	60
C	200	120	80
D	180	70	110

Answer: A

The number of female students who attended the conference in school A = 60

The number of male students who attended the conference in school B = 40

Required ratio = 60:40 = 3:2

15. Questions

The total number of students who attended the conference in school B = 100

The total number of students who attended the conference in school C = 200

Let, the number of male students who attended the conference = x

The number of female students who attended the conference = y

x + 3y = 100 ----> (1)

3x + 4y = 200 ----> (2)

By solving, equations (1) and (2), we get

x = 40, y = 20

The number of male students who attended the conference in school B = 40

The number of female students who attended the conference in school B = 3 * 20 = 60

The number of male students who attended the conference in school C = 3 * 40 = 120

The number of female students who attended the conference in school C = 4 * 20 = 80

The number of female students who attended the conference in school A = 60

The number of male students who attended the conference in school D = 60 * 7/6 = 70

Let the number of male students who attended the conference in school A be z.

And the number of female students who attended the conference in school D = z + 50

z + (z + 50) = 300 – (60 + 70)

2z = 170 – 50

z = 120/2 = 60

The number of male students who attended the conference in school A = 60

The number of female students who attended the conference in school D =50 + 60 = 110

The total number of students who attended the conference in school A = 60 + 60 = 120

The total number of students who attended the conference in school D = 70 + 110 = 180

Schools	The total number of students who attended the conference	The number of male students who attended the conference	The number of female students who attended the conference
A	120	60	60
B	100	40	60
C	200	120	80
D	180	70	110

Answer: E

In school D,

The total number of students who attended the conference = 180

The number of students who attended the conference from class 8^{th} = 180 * 35/100 = 63

The total number of students who attended the conference from classes $10^{th}$and 12^{th}together = 180 – 63 =

117

Required difference = 117 – 63 = 54

16. Questions

Answer: B

According to the question,

For scheme A,

SI = PNR/100

SI = (x+2500) *(15/100)* 3

SI = (0.45x + 1125)

For scheme B,

CI = P * $(1+R/100)^n$ – P

CI = (x +1000) * 1.2 * 1.2 – (x +1000)

CI= 1.44x + 1440 –x – 1000

CI= (0.44x +440)

(0.45x + 1125) – (0.44x +440) = 735

0.01x = 735 - 685

x = 5000

17. Questions

Answer: A

According to the question,

The ratio of the profit share of A, B and C

= (4x * 6): (7x * 8 + (7x +200)*4): (6x * 12)

= 6x: (14x + 7x + 200): 18x

= 6x: (21x + 200): 18x

(21x + 200)/18x = 25/18

25x – 21x = 200

x = 200/4 = 50

The initial investment of A = 4 * 50 = Rs.200

18. Questions

Answer: C

The quantity of mixture A = (780 – 120)/2 = 660/2 = 330 litres

rohitsankhala04@gmail.com

The quantity of mixture B = 780 – 330 = 450 litres

Let, the quantity of milk = x

The quantity of water = y

4x + 5y = 330 ---->(3)

5x + 7y = 450 ---->(4)

By solving, equations (3) and (4), we get

x = 20, y= 50

The quantity of milk in mixture A = 4 * 20 = 80 litres

19. Questions

Answer: C

According to the question,

Let, the present age of A = 2x

The present age of B = 3x

(2x + 3)/(3x + 7) = 5/8

16x + 24 = 15x + 35

x = 11

The present age of A = 2 * 11 = 22 years

The present age of B = 3 * 11 = 33 years

The present age of C = 2 * (33 – 22) = 22 years

20. Questions

Answer: B

According to the question,

Let, the marked price of Article A = 5x

The cost price of the Article B = 3x

The selling price of Article A = 5x * 80/100 = 4x

5x -4x = 225

x = 225

The cost price of Article B = 3 * 225 = Rs.675

The selling price of Article B = 675 * 120/100 = Rs.810

21. Questions

Answer: E

rohitsanthala04@gmail.com

According to the question,

Let, the speed of the boat in upstream = x km/hr

The speed of the boat in downstream = y km/hr

192/x = 320/y

x/y = 3/5

Let the upstream and downstream speeds of the boat be 3a km/hr and 5a km/hr respectively.

The speed of the boat in still water = 192/6 = 32 km/hr

(5x + 3x)/2 = 32

x = 8

The speed of the stream = (5x – 3x)/2 = (40 – 24)/2 = 16/2 = 8 km/hr

22. Questions

Answer: A

According to the question,

Let, the efficiency of A = x

The efficiency work of B = y

The efficiency of C =x * 140/100 = 1.4x

42(x + y) = 40 (1.4x + y)

42x + 42y = 56x + 40y

14x = 2y

x/y = 1/7

y = 7x

x = 1, y = 7

Required ratio = x : y : 1.4x = 1 : 7 : 1.4 = 5:35:7

23. Questions

Answer: B

According to the question,

The side of the square = √256 = 16 cm

The perimeter of the square = 4 * 16 = 64 cm

The perimeter of the equilateral triangle = 64 * 3/8 = 24 cm

3a = 24

a = 8 cm

rohitsankhala04@gmail.com

The side of the equilateral triangle = 8 cm

The new side of the equilateral triangle = 8 * 75/100 = 6 cm

The new area of the equilateral triangle = $(\sqrt{3}/4)\ a^2\ cm^2 = 2/4 * 6 * 6 = 18\ cm^2$

24. Questions

Answer: C

According to the question,

Let, the speed of the train = x m/sec

The length of the train = l meters

l = 12x ------ 1

l + 420 = 33x ------ 2

We have put Equation 1 into Equation 2

12x + 420 = 33x

21x = 420

x = 20

The speed of the train = 20 m/s

The length of the train = 12 * 20 = 240 meters

240 + y = 20 * 22.5

y = 210

The length of the bridge = 210 + 14 = 224 meters

The new speed of the train = 20 * 145/100 = 29 m/s

Time taken = (240 + 224)/29 = 464/29 = 16 seconds

25. Questions

Answer: A

According to the question,

The total runs scored by all four teams = 210 * 100/30 = 700

The total runs scored by teams A, B and C together= 700 – 210 = 490

The runs scored by team A = 490 * 2/(2 + 3 + 2) = 490 * 2/7 = 140

The runs scored by team B = 490 * 3/7 = 210

Required total = (210 +140) * 20/100 = 350 * 1/5 = 70

26. Questions

Answer: B

rohitsant-hala04@gmail.com

20.891 * 9.09 + 33.981 * √200 + ? = 865.09

? = 200

27. Questions

Answer: D

44.95% of 60.08 + √4760 * 3.92 = ?

27 + 276 = ?

? = 303

28. Questions

Answer: A

17.12 * √674 + ? = 28.23 * √439

442 + ? = 588

? = 146

29. Questions

Answer: C

14.97% of 419.92 + 35.05% of 340.19 = ?

63 + 119 = ?

? = 182

30. Questions

Answer: D

1619.89 ÷ √223 * 4.96 = $?^2$ + √120

1620/3 = $?^2$ + 11

? = 23

31. Questions

Answer: B

12 * 1 + 8 = 20

20 * 2 + 8 = 48

48 * 3 + 8 = 152

152 * 4 + 8 = **616**

616 * 5 + 8 = 3088

32. Questions

Answer: C

rohitsankhala04@gmail.com

19 + 23 * 1 = 42

42 + 19 * 2 = 80

80 + 17 * 3 = 131

131 + 13 * 4 = **183**

183 + 11 * 5 = 238

33. Questions

Answer: A

2 + 18 = 20

20 + 24 = 44

44 + 30 = **74**

74 + 36 = 110

110 + 42 = 152

34. Questions

Answer: C

$13^2 - 11 = 158$

$12^2 - 10 = 134$

$11^2 - 9 = 112$

$10^2 - 8 = 92$

$9^2 - 7 = 74$

$8^2 - 6 =$ **58**

35. Questions

Answer: E

$5 + 1^2 + 1 = 7$

$7 + 2^2 + 1 = 12$

$12 + 3^2 + 1 =$ **22**

$22 + 4^2 + 1 = 39$

$39 + 5^2 + 1 = 65$

36. Questions

rohitsankhala04@gmail.com

Answer: A

$x^2 + 7x + 10 = 0$

$\Rightarrow x^2 + 5x + 2x + 10 = 0$

$\Rightarrow x(x+5) + 2(x+5)$

$= (x+2)(x+5)$

$\Rightarrow x = -2, -5$

$y^2 - 3y - 4 = 0$

$\Rightarrow y^2 + y - 4y - 4 = 0$

$\Rightarrow y(y+1) - 4(y+1) = 0$

$\Rightarrow (y-4)(y+1)$

$\Rightarrow y = 4, -1$

Hence, $x < y$

37. Questions

Answer: D

$x^3 = 1728$

$x = 12$

$y^2 + 256 = 400$

$y^2 = 400 - 256 = 144$

$\Rightarrow y = 12, -12$

Hence, $x \geq y$

38. Questions

Answer: A

$3x + 2y = 47$---------(1)

$2x + 5y = 46$-------(2)

From (1) and (2)

$x = 13$

$y = 4$

$x > y$

39. Questions

rohitsankhala04@gmail.com

Answer: A

$x^2 + 11x + 24 = 0$

$x^2 + 3x + 8x + 24 = 0$

$x(x+3) + 8(x+3) = 0$

$(x+3)(x+8) = 0$

$x = -3, -8$

$4y^2 + 13y + 10 = 0$

$4y^2 + 8y + 5y + 10 = 0$

$4y(y+2) + 5(y+2) = 0$

$(4y+5)(y+2)$

$y = -5/4, -2$

Hence, $x < y$

40. Questions

Answer: E

$3x^2 - x - 2 = 0$

$3x^2 - 3x + 2x - 2 = 0$

$3x(x-1) + 2(x-1) = 0$

$(3x+2)(x-1) = 0$

$x = 1, -2/3$

$4y^2 - 2y - 2 = 0$

$4y^2 - 4y + 2y - 2 = 0$

$4y(y-1) + 2(y-1) = 0$

$(4y+2)(y-1) = 0$

$y = +1, -1/2$

Hence, Relationship between x and y cannot be determined

rohitsankhala04@gmail.com