1. Questions

Study the following information carefully and answer the questions.

The given table chart shows the total number of canes manufactured, the ratio of the number of blue canes to the number of violet canes manufactured, and the total number of red canes manufactured by five different companies, namely P, Q, R, S, and T in 2011.

Note: The total number of canes manufactured in each companies = The number of red canes manufactured + The number of blue canes manufactured + The number of violet canes manufactured.

Company	The number of red canes manufactured	The ratio of the number of blue canes to the number of violet canes manufactured	The total number of canes manufactured
P	180	6:7	440
Q	220	5:2	430
R	140	3:2	740
S	100	6:13	670
T	160	3:7	460

The total number of blue canes manufactured by the companies P, Q, and S together is what percentage more or less than the total number of violet canes manufactured by the companies S and T together?

a. 25% more

b. 30% more

c. 40% more

d. 30% less

e. 25% less

2. Questions

If the number of red, blue, and violet canes sold by the company R is (0.5Z + 20), 4Z/3, and (2.5Z – 50), then find the ratio of the number of red canes to the number of violet canes unsold by the company R if the number of blue canes sold by the company R is equal to the number of blue canes manufactured by the company P.

a. 25:13

b. 14:17

c. 13:29

d. 15:13

e. 27:31

3. Questions

In company Q, the number of violet cans manufactured in 2012 is 35% more than the previous year and the ratio of number of red to violet canes manufactured in 2012 is 7:9. If the number of red and blue canes manufactured in 2012 is (3y + 30) and (5y – 10) respectively, then find the total number of canes manufactured in 2012.

a. 195

b. 189

c. 164

d. 173

e. 186

4. Questions

Find the difference between the average number of red canes manufactured by the companies Q, S, and T together and the average number of canes (red and violet) manufactured by the company T.

a. 30

b. 32

c. 25

d. 22

e. 28

5. Questions

In company P, the ratio of number of red to blue defective canes and non-defective manufactured is 3:1 and 3:4 respectively. If the ratio of the number of non-defective red to violet canes manufactured is 2:3, then find the number of non-defective violet canes manufactured.

a. 120

b. 60

c. 70

d. 85

e. 90

6. Questions

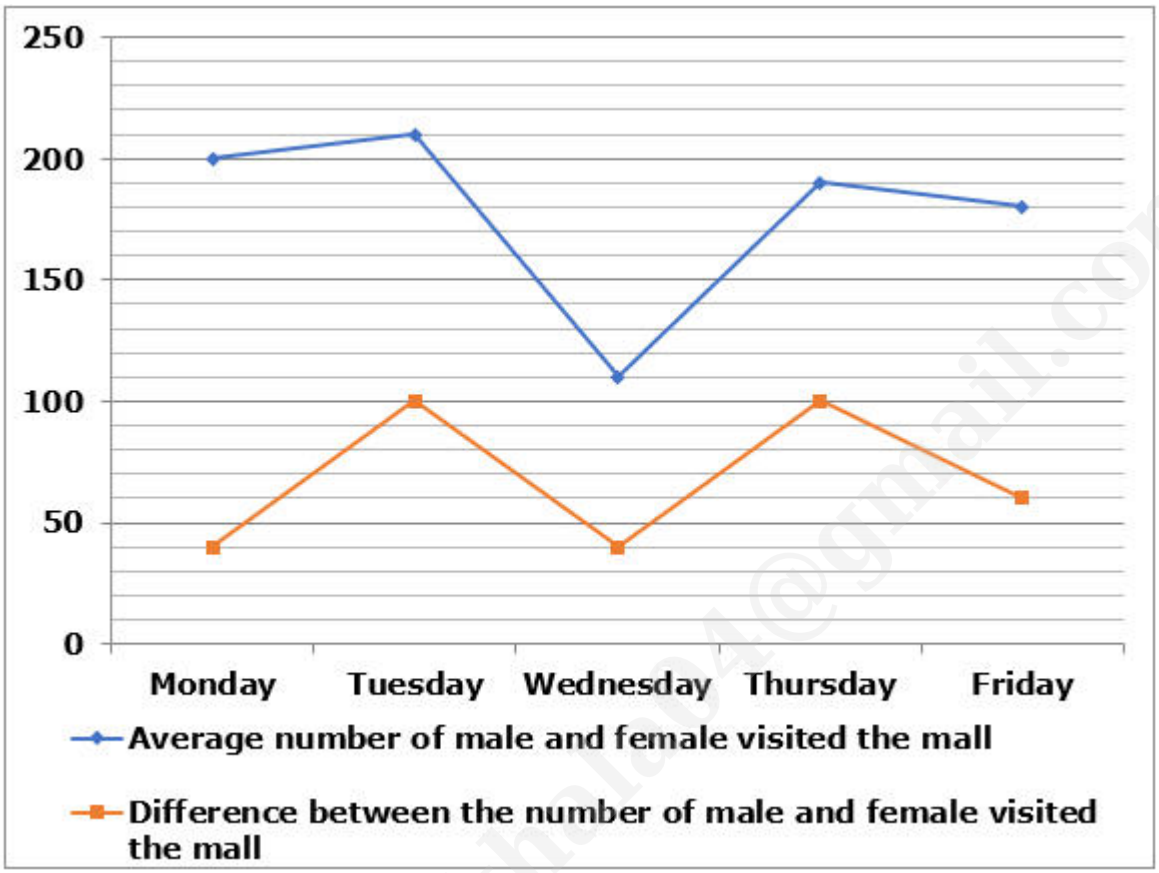
Study the following information carefully and answer the questions.

The given line graph shows the average number of males and females who visited the mall and the difference between the number of males and females who visited the mall on five different days namely

Monday, Tuesday, Wednesday, Thursday, and Friday in September 2007.

Note: The total number of people who visited the mall = The number of males who visited the mall + The number of females who visited the mall.

Except for Tuesday and Friday, the number of males who visited the mall is less than the number of females who visited the mall.



On Wednesday, the number of males and females who visited the mall in October increased and decreased by 60% and 30%, respectively. Find the total number of people who visited the mall in October.

a. 225

b. 238

c. 230

d. 235

e. 240

7. Questions

The total number of females who visited the mall on Monday and Thursday together is approximately what percentage of the total number of males who visited the mall on Tuesday, Wednesday, and Friday together?

a. 88%

b. 80%

c. 82%

d. 92%

8. Questions

On Friday, in mall people visited only theatre and grocery shop, the ratio of number of male to females who visited theater and grocery shop is 6:5 and 9:5 respectively. Find the difference between the number of males who visited the theatre and the number of females who visited the grocery shop.

a. 70

b. 75

c. 78

d. 80

e. 68

9. Questions

Find the difference between the average number of females who visited the mall on Monday, Tuesday, Wednesday, and Friday together to the average number of males who visited the mall on Monday, Wednesday, and Friday together.

a. 6

b. 10

c. 8

d. 5

e. 7

10. Questions

On Tuesday, the number of males and females who visited the mall to buy necessary things is (3a + 65) and (4a – 17), respectively. If the total number of people who didn't buy any things is 120, then find the number of males who didn't buy any things.

a. 33

b. 87

c. 97

d. 90

e. 85

11. Questions

Read the following information carefully and answer the questions.

Some people bought four different juices namely Badam, lemon, orange, and watermelon from two different shops, namely A and B, in March**.** The total number of people who bought juices from shops A and B together is 280. Out of the total number of people who bought Badam, 40% are bought from shop B. The number of people who bought lemon from shop B is six more than the number of people who bought Badam from shop B. The ratio of the number of people who bought oranges from shops A to B is 3:2. The number of people who bought Badam from shop A is 1/2 of the number of people who bought a watermelon from shop A. The ratio of the total number of people who bought Badam, orange, lemon, and watermelon from both shops together is 3: 4: 2: 5.

The number of people who bought lemon, orange, and watermelon juices from Shop A together is what percentage more or less than the total number of people who bought orange juices?

a. 37.5%

b. 12.5%

c. 62.5%

d. 33.33%

e. 75%

12. Questions

The ratio of the number of males and females who bought orange juices from shops A to B is 5:3 and 7:5, respectively, Find the average of the number of males who bought orange juice from shop B and the number of females who bought orange juice from shop A together.

a. 21

b. 20

c. 18

d. 15

e. 22

13. Questions

Find the sum of the average number of people who bought all juices from shop A together and the average number of people who bought all juices from shop B together.

a. 70

b. 60

c. 65

d. 75

e. 80

14. Questions

If shop A sold lemon and orange juices for Rs. 15 and Rs. 25, respectively and shop B sold the same juices at the same price, Find the difference between the revenue generated by shops A and B.

a. 130
b. 150
c. 180
d. 100
e. 110

15. Questions

Find the ratio between the number of people who bought Badam juice from shop A to the number of people who bought Watermelon juice from shop B.

a. 5:12
b. 12:1
c. 1:17
d. 10:11
e. 9:7

16. Questions

The difference between the simple interest and compound interest on a sum of "P" at the rate of 30% per annum after 2 years is Rs. 450. Find the total amount received after 4 years, if he invested Rs. (P + 500) at the rate of 15% per annum in simple interest.

a. Rs. 5500
b. Rs. 8800
c. Rs. 3300
d. Rs. 8500
e. Rs. 9000

17. Questions

Arjun and Anbu started a business with an investment of Rs. (a + 400) and Rs. (3.5a + 1000), respectively. After 6 months, Arjun added Rs. 2600, after two more months, Anbu withdrew Rs. 900. At the end of the year, if the ratio of profit share between Arjun and Anbu is 9:14, then find the value of a.

a. Rs. 1000
b. Rs. 1200
c. Rs. 1800

d. Rs. 1500

e. None of these

18. Questions

A mixture contains milk and water in the ratio10:9. If25% of the mixture is taken out, and 6 liters of milk and 18 liters of water are added, then the ratio of final quantity of milk to water is 11:12. Find the quantity of milk and water in the initial mixture.

a. 160 liters

b. 170 liters

c. 200 liters

d. 152 liters

e. 158 liters

19. Questions

The average weight of a "2n" number of students in a class is 17.2kg, and the number of boys in the class is 6 more than that of girls. If the average weight of the boys is 15 kg and the average weight of the girls is 20 kg, then find the total number of students in the class.

a. 25

b. 30

c. 40

d. 50

e. 45

20. Questions

The selling price of article 1 and article 2 is Rs. (x – 166) and Rs. x. When article 1 is sold at 20% loss and the article 2 is sold at 25% profit, then the total cost price is Rs.1330. Find the marked price of article2, if the article is sold at a discount of 16.67%.

a. Rs. 900

b. Rs. 750

c. Rs. 940

d. Rs. 850

e. Rs. 800

21. Questions

The speed of the boat in still water is 22 km/hr, and the speed of the stream is 8 km/hr. The time taken by boat to travel from P to Q downstream is 9 hours less than to travel from Q to R

upstream. If the distance between P and Q is 50 km more than that of Q and R, then find the distance between P and Q.

a. 340 km

b. 310 km

c. 330 km

d. 350 km

e. 320 km

22. Questions

Pipe X can fill 4/7th of the tank in 20 hours, and pipe Y can fill the same tank in 42 hours. The ratio of the efficiency of pipes X to Z is 3:1. Initially Pipe X alone is opened for 8 hours and then Pipe Y and Z are also opened and filled the remaining tank. Find the total time taken to fill the tank if pipe Z is the outlet pipe.

a. 23 hours

b. 27 hours

c. 18 hours

d. 20 hours

e. 26 hours

23. Questions

The height of a cylinder is 4 times of breadth of a rectangle. The perimeter of the rectangle is 34 cm and the length of the rectangle is 5 cm more than that of breadth, then find the total surface area of the cylinder, if the radius of the cylinder is 14 cm.

a. 2115 cm^2

b. 3344 cm^2

c. 2100 cm^2

d. 2120 cm^2

e. 3130 cm^2

24. Questions

The ratio of the length of trains A and B is 12:7 and train B crosses train A running in the same direction in 38 seconds. If train A crosses a pole in 24 seconds and the speed of train A is 90 km/hr, then find the speed of train B in km/hr.

a. 150 km/hr

b. 180 km/hr

c. 200 km/hr

d. 160 km/hr

e. 120 km/hr

25. Questions

Varsha scored (3c + 6) marks in the physics exam and failed by 12 marks and Surya scored (6c – 16) marks in the same exam and scored 8 marks more than the pass marks. If the pass percentage is 25%,then find the total marks in the physics exam.

a. 240

b. 200

c. 260

d. 180

e. 195

26. Questions

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

(117 ÷ 225) * ($?^2$ ÷ 26) * 2 = 5÷ ?

a. 3

b. 4

c. 5

d. 7

e. 8

27. Questions

5(2/3) + 9(5/6) –2(1/4) = ? ÷ 20

a. 265

b. 255

c. 270

d. 258

e. 272

28. Questions

140% of 180 + 35^2- ? = 62.5% of 1136

a. 750

b. 748

c. 755

d. 767

e. 775

29. Questions

(3025 ÷ √625) * 13 = ?^{2} + 104 ÷ 2

a. 35

b. 32

c. 39

d. 34

e. 37

30. Questions

19.5 ÷ 1.5 + 47 ÷ 2= ? ÷ 14

a. 506

b. 514

c. 525

d. 511

e. 520

31. Questions

What value should come in the place of (?) in the following number series?

34, 35, 72, 219, ? , 4405

a. 279

b. 333

c. 573

d. 880

e. 2025

32. Questions

222, 239, ? , 281, 310, 341

a. 260

b. 258

c. 264

d. 270

e. 266

33. Questions

1024, ? , 1048, 1066, 1088, 1114

a. 1028

b. 1030

c. 1045

d. 1042

e. 1034

34. Questions

64, 128, 256, 448, 704, ?

a. 1154

b. 1024

c. 1058

d. 1064

e. 1056

35. Questions

43, 22, 23, 36, ?, 187.5

a. 40

b. 58

c. 82

d. 74

e. 98

36. Questions

The following question contains two equations I and II. You have to solve both equations and determine the relationship between them and give the answer as,

I). $2x^2 - 22x + 56 = 0$

II). $y^2 - 21y + 98 = 0$

a. $x > y$

b. $x \geq y$

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

d. $x < y$

e. $x \leq y$

37. Questions

I). $x^2 - 14x - 120 = 0$

II). $y^2 + 29y + 210 = 0$

a. $x > y$

b. $x < y$

c. $x \leq y$

d. $x \geq y$

e. $x = y$ or relationship can't be determined

38. Questions

I). $2y^2 - 22y + 36 = 0$

II). $x = \sqrt{676}$

a. $y > x$

b. $y < x$

c. $x \leq y$

d. $y \leq x$

e. $x = y$ or relationship can't be determined

39. Questions

I). $x^2 + 30x + 104 = 0$

II). $y^2 + 29y + 154 = 0$

a. $x = y$ or relationship can't be determined

b. $x > y$

c. $x < y$

d. $x \leq y$

e. $x \geq y$

40. Questions

I). $x^2-19x + 70 = 0$

II). $y^2+18y - 88 = 0$

a. $x \leq y$

b. $y \leq x$

c. $y < x$

d. $y > x$

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

Explanations:

1. Questions

The total number of blue and violet canes manufactured by the company P = 440 – 180 = 260

The number of blue canes manufactured by the company P = 260 * 6/13 = 120

The number of violet canes manufactured by the company P = 260 * 7/13 = 140

Similarly,

Company	The number of red canes manufactured	The number of blue canes manufactured	The number of violet canes manufactured	The total number of canes manufactured
P	180	120	140	440
Q	220	150	60	430
R	140	360	240	740
S	100	180	390	670
T	160	90	210	460

Answer: E

The total number of blue canes manufactured by the companies P, Q, and S together = 120 + 150 + 180 = 450

The total number of violet canes manufactured by the companies S and T together = 390 + 210 = 600

The required percentage = (600 - 450)/600 * 100 = 150/600 * 100 = 25% less

2. Questions

The total number of blue and violet canes manufactured by the company P = 440 – 180 = 260

The number of blue canes manufactured by the company P = 260 * 6/13 = 120

The number of violet canes manufactured by the company P = 260 * 7/13 = 140

Similarly,

Company	The number of red canes manufactured	The number of blue canes manufactured	The number of violet canes manufactured	The total number of canes manufactured
P	180	120	140	440
Q	220	150	60	430
R	140	360	240	740
S	100	180	390	670
T	160	90	210	460

Answer: D

The number of blue canes sold by the company R = 4Z/3 = 120

Z = 120 * 3/4 = 90

Z = 90

The number of red canes sold by the company R = 0.5Z + 20 = 0.5 * 90 + 20 = 65

The number of red canes unsold by the company R = 140 – 65 = 75

The number of violet canes sold by the company R = 2.5Z – 50 = 2.5 * 90 – 50 = 225 – 50 = 175

The number of violet canes unsold by the company R = 240 – 175 = 65

The required ratio = 75:65 = 15:13

3. Questions

The total number of blue and violet canes manufactured by the company P = 440 – 180 = 260

The number of blue canes manufactured by the company P = 260 * 6/13 = 120

The number of violet canes manufactured by the company P = 260 * 7/13 = 140

Similarly,

Company	The number of red canes manufactured	The number of blue canes manufactured	The number of violet canes manufactured	The total number of canes manufactured
P	180	120	140	440
Q	220	150	60	430
R	140	360	240	740
S	100	180	390	670
T	160	90	210	460

Answer: B

The number of violet canes manufactured by the company Q in 2012= 135/100 * 60 = 81

The number of red canes manufactured by the company Q in 2012= 81 * 7/9 = 63 = 3Y + 30

3Y + 30 = 63

3Y = 33

Y = 11

The number of blue canes manufactured by the company Q in 2012= 5Y – 10 = 5 * 11 – 10 = 55 – 10 = 45

The total number of canes manufactured by the company Q in 2012 = 81 + 63 + 45 = 189

4. Questions

The total number of blue and violet canes manufactured by the company P = 440 – 180 = 260

The number of blue canes manufactured by the company P = 260 * 6/13 = 120

The number of violet canes manufactured by the company P = 260 * 7/13 = 140

Similarly,

Company	The number of red canes manufactured	The number of blue canes manufactured	The number of violet canes manufactured	The total number of canes manufactured
P	180	120	140	440
Q	220	150	60	430
R	140	360	240	740
S	100	180	390	670
T	160	90	210	460

Answer: C

The average number of red canes manufactured by the companies Q, S, and T together = (220 + 100 + 160)/3 = 480/3 = 160

The average number of canes (red and violet) manufactured by the company T together = (160 + 210)/2 = 370/2 = 185

The required difference = 185 – 160 = 25

5. Questions

The total number of blue and violet canes manufactured by the company P = 440 – 180 = 260

The number of blue canes manufactured by the company P = 260 * 6/13 = 120

The number of violet canes manufactured by the company P = 260 * 7/13 = 140

Similarly,

Company	The number of red canes manufactured	The number of blue canes manufactured	The number of violet canes manufactured	The total number of canes manufactured
P	180	120	140	440
Q	220	150	60	430
R	140	360	240	740
S	100	180	390	670
T	160	90	210	460

Answer: E

Let the number of defective red and violet canes manufactured by company P be 3x and x respectively

Let the number of non-defective red and violet canes manufactured by the company P be 3y and 4y respectively

3x + 3y = 180 ---- (1)

x + 4y = 120 ---- (2)

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

x = 40 & y = 20

The total number of non-defective canes (red) manufactured by the company P = 3y = 3 * 20 = 60

The total number of non-defective canes (violet) manufactured by the company P = 60 * 3/2 = 90

6. Questions

The total number of people who visited the mall on Monday= 200 * 2 = 400

Let the number of males and females who visited the mall be “m” and “f” respectively

According to the given data,

f + m = 400 ---- (1)

f – m = 40 ---- (2)

By solving the equation (1) & (2), we get

f = 220 & m = 180

The number of males who visited the mall on Monday, m = 180

The number of females who visited the mall on Monday, f = 220

Similarly,

Days	The number of males who visited the mall	The number of females who visited the mall	The total number of people who visited the mall
Monday	180	220	400
Tuesday	260	160	420
Wednesday	90	130	220
Thursday	140	240	380
Friday	210	150	360

Answer: D

The number of males who visited the mall on Wednesday in October = 90 * 160/100 = 144

The number of females who visited the mall on Wednesday in October = 130 * 70/100 = 91

The total number of people who visited the mall on Wednesday in October = 144 + 91 = 235

7. Questions

The total number of people who visited the mall on Monday= 200 * 2 = 400

Let the number of males and females who visited the mall be “m” and “f” respectively

According to the given data,

f + m = 400 ---- (1)

f – m = 40 ---- (2)

By solving the equation (1) & (2), we get

f = 220 & m = 180

The number of males who visited the mall on Monday, m = 180

The number of females who visited the mall on Monday, f = 220

Similarly,

Days	The number of males who visited the mall	The number of females who visited the mall	The total number of people who visited the mall
Monday	180	220	400
Tuesday	260	160	420
Wednesday	90	130	220
Thursday	140	240	380
Friday	210	150	360

Answer: C

The total number of females who visited the mall on Monday and Thursday together = 220 + 240 = 460

The total number of males who visited the mall on Tuesday, Wednesday, and Friday together = 260 + 90 + 210 = 560

The required percentage = 460/560 * 100 = 82.14%

8. Questions

The total number of people who visited the mall on Monday= 200 * 2 = 400

Let the number of males and females who visited the mall be “m” and “f” respectively

According to the given data,

f + m = 400 ---- (1)

f – m = 40 ---- (2)

By solving the equation (1) & (2), we get

f = 220 & m = 180

The number of males who visited the mall on Monday, m = 180

The number of females who visited the mall on Monday, f = 220

Similarly,

Days	The number of males who visited the mall	The number of females who visited the mall	The total number of people who visited the mall
Monday	180	220	400
Tuesday	260	160	420
Wednesday	90	130	220
Thursday	140	240	380
Friday	210	150	360

Answer: A

Let the number of males and females who visited the theatre in the mall be 6x and 5x respectively

Let the number of males and females who visited the grocery shop in the mall be 9y and 5y respectively

6x + 9y = 210 ---- (1)

5x + 5y = 150 ---- (2)

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

x = 20 & y = 10

The number of males who visited the theatre on Friday= 6x = 6 * 20 = 120

The number of females who visited the grocery shop on Friday= 5y = 5 * 10 = 50

The required difference = 120 – 50 = 70

9. Questions

The total number of people who visited the mall on Monday= 200 * 2 = 400

Let the number of males and females who visited the mall be “m” and “f” respectively

According to the given data,

f + m = 400 ---- (1)

f – m = 40 ---- (2)

By solving the equation (1) & (2), we get

f = 220 & m = 180

The number of males who visited the mall on Monday, m = 180

The number of females who visited the mall on Monday, f = 220

Similarly,

Days	The number of males who visited the mall	The number of females who visited the mall	The total number of people who visited the mall
Monday	180	220	400
Tuesday	260	160	420
Wednesday	90	130	220
Thursday	140	240	380
Friday	210	150	360

Answer: D

The average number of females who visited the mall on Monday, Tuesday, Wednesday, and Friday together = (220 + 160 + 130 + 150)/4 = 660/4 =165

The average number of males who visited the mall on Monday, Wednesday, and Friday together = (180 + 90 + 210)/3 = 480/3 = 160

The required difference = 165 – 160 = 5

10. Questions

The total number of people who visited the mall on Monday= 200 * 2 = 400

Let the number of males and females who visited the mall be “m” and “f” respectively

According to the given data,

f + m = 400 ---- (1)

f – m = 40 ---- (2)

By solving the equation (1) & (2), we get

f = 220 & m = 180

The number of males who visited the mall on Monday, m = 180

The number of females who visited the mall on Monday, f = 220

Similarly,

Days	The number of males who visited the mall	The number of females who visited the mall	The total number of people who visited the mall
Monday	180	220	400
Tuesday	260	160	420
Wednesday	90	130	220
Thursday	140	240	380
Friday	210	150	360

Answer: B

The total number of people who visited the mall on Tuesday = 260 + 160 = 420

The number of people who buy necessary things on Tuesday= 420 – 120 = 300

According to the question,

3a + 65 + 4a – 17 = 300

7a = 300 – 48

a = 252/7

a = 36

The total number of males who bought necessary things on Tuesday= 3a + 65 = 3 * 36 + 65 = 108 + 65 = 173

The total number of males who didn't buy anything on Tuesday= 260 – 173 = 87

11. Questions

The total number of people who bought juices = 280

The total number of people who bought Badam juice= 280 * 3/14 = 60

The total number of people who bought Badam juice from shop B = 60 * 40/100 = 24

The total number of people who bought Badam juice from shop A= 60 - 24 = 36

The total number of people who bought lemon juice= 280 * 2/14 = 40

The number of people who bought lemon juice from shop B = 24 + 6 = 30

The number of people who bought lemon juice from shop A = 40 - 30 = 10

The total number of people who bought orange juice= 280 * 4/14 = 80

The number of people who bought orange juice from shop A = 80 * 3/5 = 48

The number of people who bought orange juice from shop B = 80 * 2/5 = 32

The total number of people who bought watermelon juice= 280 * 5/14 = 100

The number of people who bought a watermelon juice from shop A = 36 * 2/1 = 72

The number of people who bought a watermelon juice from shop B = 100 - 72 = 28

Juice	Total number of people bought the juice	The number of people bought juice in shop A	The number of people bought juice in shop B
Badam	60	36	24
Lemon	40	10	30
Orange	80	48	32
Watermelon	100	72	28

Answer: C

The total number of people who bought lemon, orange, and watermelon juices from Shop A together = 10 + 48 + 72 = 130

The total number of people who bought orange juices = 80

The required percentage = (130 – 80)/80 * 100 = 50/80 * 100 = 62.5%

12. Questions

The total number of people who bought juices = 280

The total number of people who bought Badam juice= 280 * 3/14 = 60

The total number of people who bought Badam juice from shop B = 60 * 40/100 = 24

The total number of people who bought Badam juice from shop A= 60 - 24 = 36

The total number of people who bought lemon juice= 280 * 2/14 = 40

The number of people who bought lemon juice from shop B = 24 + 6 = 30

The number of people who bought lemon juice from shop A = 40 - 30 = 10

The total number of people who bought orange juice= 280 * 4/14 = 80

The number of people who bought orange juice from shop A = 80 * 3/5 = 48

The number of people who bought orange juice from shop B = 80 * 2/5 = 32

The total number of people who bought watermelon juice= 280 * 5/14 = 100

The number of people who bought a watermelon juice from shop A = 36 * 2/1 = 72

The number of people who bought a watermelon juice from shop B = 100 - 72 = 28

Juice	Total number of people bought the juice	The number of people bought juice in shop A	The number of people bought juice in shop B
Badam	60	36	24
Lemon	40	10	30
Orange	80	48	32
Watermelon	100	72	28

Answer: B

Let the number of males who bought orange juices from shops A and B be 5x and 3x respectively

and the number of females who bought orange juices from shops A and B be 7y and 5y respectively

5x + 7y = 48 ---- (1)

3x + 5y = 32 ---- (2)

By solving the equation (1) & (2), we get

x = 4 & y = 4

The number of males who bought orange juice from shop B = 3x = 3 * 4 = 12

The number of females who bought orange juice from shops A = 7y = 7 * 4 = 28

The required average = (12 + 28)/2 = 40/2 = 20

13. Questions

The total number of people who bought juices = 280

The total number of people who bought Badam juice= 280 * 3/14 = 60

The total number of people who bought Badam juice from shop B = 60 * 40/100 = 24

The total number of people who bought Badam juice from shop A= 60 - 24 = 36

The total number of people who bought lemon juice= 280 * 2/14 = 40

The number of people who bought lemon juice from shop B = 24 + 6 = 30

The number of people who bought lemon juice from shop A = 40 - 30 = 10

The total number of people who bought orange juice= 280 * 4/14 = 80

The number of people who bought orange juice from shop A = 80 * 3/5 = 48

The number of people who bought orange juice from shop B = 80 * 2/5 = 32

The total number of people who bought watermelon juice= 280 * 5/14 = 100

The number of people who bought a watermelon juice from shop A = 36 * 2/1 = 72

The number of people who bought a watermelon juice from shop B = 100 - 72 = 28

Juice	Total number of people bought the juice	The number of people bought juice in shop A	The number of people bought juice in shop B
Badam	60	36	24
Lemon	40	10	30
Orange	80	48	32
Watermelon	100	72	28

Answer: A

The average number of people who bought all juices from shop A together = 36 + 10 + 48 + 72 = 166/4 = 41.5

The average number of people who bought all juices from shop B together = 24 + 30 + 32 + 28 = 28.5

The required sum = 41.5 + 28.5 = 70

OR

Required answer = 116/4 + 114/4 = 280/4 = 70

14. Questions

The total number of people who bought juices = 280

The total number of people who bought Badam juice= 280 * 3/14 = 60

The total number of people who bought Badam juice from shop B = 60 * 40/100 = 24

The total number of people who bought Badam juice from shop A= 60 - 24 = 36

The total number of people who bought lemon juice= 280 * 2/14 = 40

The number of people who bought lemon juice from shop B = 24 + 6 = 30

The number of people who bought lemon juice from shop A = 40 - 30 = 10

The total number of people who bought orange juice= 280 * 4/14 = 80

The number of people who bought orange juice from shop A = 80 * 3/5 = 48

The number of people who bought orange juice from shop B = 80 * 2/5 = 32

The total number of people who bought watermelon juice= 280 * 5/14 = 100

The number of people who bought a watermelon juice from shop A = 36 * 2/1 = 72

The number of people who bought a watermelon juice from shop B = 100 - 72 = 28

Juice	Total number of people bought the juice	The number of people bought juice in shop A	The number of people bought juice in shop B
Badam	60	36	24
Lemon	40	10	30
Orange	80	48	32
Watermelon	100	72	28

Answer: D

The revenue generated by selling lemon juice from shop A= 10 * 15 = Rs. 150

The revenue generated by selling orange juice from shop A = 48 * 25 = Rs. 1200

The total revenue generated from shop A = 150 + 1200 = Rs. 1350

The revenue generated by selling lemon juice from shop B= 30 * 15 = Rs. 450

The revenue generated by selling orange juice from shop B= 32 * 25 = Rs. 800

The total revenue generated from shop B = 450 + 800 = Rs. 1250

The required difference = 1350 – 1250 = 100

15. Questions

The total number of people who bought juices = 280

The total number of people who bought Badam juice= 280 * 3/14 = 60

The total number of people who bought Badam juice from shop B = 60 * 40/100 = 24

The total number of people who bought Badam juice from shop A= 60 - 24 = 36

The total number of people who bought lemon juice= 280 * 2/14 = 40

The number of people who bought lemon juice from shop B = 24 + 6 = 30

The number of people who bought lemon juice from shop A = 40 - 30 = 10

The total number of people who bought orange juice= 280 * 4/14 = 80

The number of people who bought orange juice from shop A = 80 * 3/5 = 48

The number of people who bought orange juice from shop B = 80 * 2/5 = 32

The total number of people who bought watermelon juice= 280 * 5/14 = 100

The number of people who bought a watermelon juice from shop A = 36 * 2/1 = 72

The number of people who bought a watermelon juice from shop B = 100 - 72 = 28

Juice	Total number of people bought the juice	The number of people bought juice in shop A	The number of people bought juice in shop B
Badam	60	36	24
Lemon	40	10	30
Orange	80	48	32
Watermelon	100	72	28

Answer: E

The number of people who bought Badam juice from shop A = 36

The number of people who bought watermelon juice from shop B = 28

Required ratio = 36:28 = 9:7

16. Questions

Answer: B

Let the principal, tenure, and rate of interest be P, N, and R, respectively.

According to the question,

Simple interest (S.I) – Compound interest (C.I) = $P * (R/100)^2$

$450 = P * (30/100)^2$

450 = 9P/100

P = 450 * 100/9

P = Rs. 5000

The new principal, P = P + 500 = 5000 + 500 = Rs. 5500

S.I = 5500 * 4 * 15/100

S.I = Rs. 3300

The total amount = S.I + Principal = 3300 + 5500 = Rs. 8800

17. Questions

Answer: A

The profit share ratio of Arjun and Anbu = ((a + 400) * 6 + (3000 + a) * 6): ((3.5a + 1000) * 8 + (3.5a + 100) * 4)

= ((a + 400) * 3 + (3000 + a) * 3): ((3.5a + 1000) * 4 + (3.5a + 100) * 2)

= (3a + 1200 + 9000 + 3a): (14a + 4000 + 7a + 200)

= (6a + 10200):(21a + 4200)

According to the question,

(6a + 10200): (21a + 4200) = 9:14

84a + 142800 = 189a + 37800

105a = 105000

a = 1000

18. Questions

Answer: D

Let the quantity of milk and water be 10x and 9x respectively

(10x –(25/100 * 10x) + 6)/ (9x – (25/100 * 9x) + 18) = 11/12

(10x – 2.5x + 6)/ (9x – 2.25x + 18) = 11/12

(7.5x + 6)/ (6.75x + 18) = 11/12

90x + 72 = 74.25x + 198

15.75x = 126

x = 8

The quantity of milk in the mixture= 10x = 10 * 8 = 80 liters

The quantity of water in the mixture= 9x = 9 * 8 = 72 liters

The quantity of milk and water in the initial mixture = 80 + 72 = 152 liters

19. Questions

Answer: D

Let the number of boys and girls be “B” and “G” respectively

According to the question,

B = 6 + G

B – G = 6 ---- (1)

B + G = 2n---- (2)

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

The total number of boys in the class, B = n + 3

The total number of girls in the class, G = n – 3

15* (n + 3) + 20 * (n – 3) = 17.2 * 2n

15n + 45 + 20n – 60 = 34.4n

35n - 15 = 34.4n

0.6n = 15

n = 25

The total number of students in the class, 2n = 2 * 25 = 50

20. Questions

Answer: A

(x – 166) * 100/80 + x * 100/125 = 1330

(x – 166) * 5/4 + x * 4/5 = 1330

5x/4 – 207.5 + 4x/5 = 1330

41x/20 = 1537.5

x = 1537.5 * 20/41

x = 750

The selling price of article 2, x = Rs. 750

The marked price of article 2 = 750 * 100/83.33 = 750 * 6/5 = Rs. 900

21. Questions

Answer: C

Let the distance between Q & R and P & Q be D km and (D + 50) km respectively

The downstream speed from P to Q, (DS) = 22 + 8 = 30 km/hr

The upstream speed from Q to R, (US) = 22 - 8 = 14 km/hr

According to the question,

(D + 50)/DS = D/US - 9

D/14 - (D + 50)/30 = 9

(15D – 7(D + 50)/210 = 9

15D -7D - 350 = 1890

8D = 2240

D = 2240/8

D = 280 km

The distance between P and Q = D + 50 = 280 + 50 = 330 km

22. Questions

Answer: E

The pipe X can fill the tank = 20 * 7/4 = 35 hours

The total capacity of the water tank (LCM of 35 and 42) = 210 units.

The efficiency of pipe X = 210/35 = 6 units/hour

The efficiency of pipe Y = 210/42 = 5 units/hour

The efficiency of pipe Z = 6 * 1/3 = 2 units/hour

The pipe X opened for 8 hours = 8 * 6 = 48 units

The remaining unfilled capacity of water tank = 210 – 48 = 162 units

If pipe Z is an outlet pipe, the net efficiency when three pipes are opened = 6 + 5 - 2 = 9 units/hour.

The required time taken = 162/9 = 18 hours

The total time taken = 8 + 18 = 26 hours

23. Questions

Answer: B

Let the length and breadth of the rectangle be l cm and b cm respectively

The perimeter of the rectangle, P = 2(l + b)

34 = 2(l + b)

l + b = 17 ---- (1)

l – b = 5 ---- (2)

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

l = 11 cm & b = 6 cm

According to the question,

The height of the cylinder = 4 * b = 4 * 6 = 24 cm

The surface area of the cylinder = $2\pi r(h+r) = 2 * 22/7 * 14 * (24+14) = 88 * 38 = 3344\ cm^2$

24. Questions

Answer: B

Let the length of the train A and B be 12x m, and 7x m respectively

The speed of train A = 90 * 5/18 = 25 m/s

According to the question,

25 = 12x/24

x = 50

The length of the train A = 12x = 12 * 50 = 600 m

The length of the train B = 7x = 7 * 50 = 350 m

Let the speed of the train B be S_b m/s

$S_b - 25 = (600 + 350)/38$

$S_b - 25 = 950/38$

$S_b - 25 = 25$

$S_b = 50$ m/s

The speed of train B in km/hr = 50 * 18/5 = 180 km/hr

25. Questions

Answer: A

According to the question,

The pass mark of Varsha = The pass mark of Surya

$3c + 6 + 12 = 6c - 16 - 8$

$3c + 18 = 6c - 24$

$3c = 42$

$c = 14$

The mark got by Varsha in physics = $3c + 6 = 3 * 14 + 6 = 42 + 6 = 48$

The pass marks of Varsha and Surya are the same, so

The pass mark = 48 + 12 = 60

Let the total marks of the physics exam be x

60/x = 25/100

x = 60 * 100/25

x = 240

The total mark of the subject, x = 240

26. Questions

Answer: C

$(117 \div 225) * (?^2 \div 26) * 2 = 5 \div ?$

$117/225 * ?^2/26 * 2 = 5 \div ?$

$117/225 * ?^2/13 = 5 \div ?$

$?^2/25 = 5 \div ?$

$?^3 = 125 = 5^3$

? = 5

27. Questions

Answer: A

5(2/3) + 9(5/6) – 2(1/4) = ? ÷ 20

17/3 + 59/6 – 9/4 = ? ÷ 20

(68 + 118 – 27)/12 = ? ÷ 20

? = 159 * 20 /12

? = 265

28. Questions

Answer: D

140% of 180 + 35^2- ? = 62.5% of 1136

140/100 * 180 + 1225- ? = 62.5/100 * 1136

252 + 1225- ? = 5/8 * 1136

1477 - ? = 710

? = 767

29. Questions

Answer: C

(3025 ÷ √625) * 13 = $?^2$ + 104 ÷ 2

(3025/25) * 13 = $?^2$ + 52

121 * 13 = $?^2$

$?^2$ = 1573 - 52

$?^2$ = 1521 = 39^2

? = 39

30. Questions

Answer: D

19.5 ÷ 1.5 + 47 ÷ 2 = ? ÷ 14

13 + 23.5 = ?/14

? = 36.5 * 14

? = 511

31. Questions

Answer: D

34 * 1 + 1 = 35

35 * 2 + 2 = 72

72 * 3 + 3 = 219

252 * 4 + 4 = **880**

880 * 5 + 5 = 4405

32. Questions

Answer: B

222 + 17 = 239

239 + 19 = **258**

258 + 23 = 281

281 + 29 = 310

310 + 31 = 341

The difference between the numbers is the prime number series.

33. Questions

Answer: E

1024 + 10 =**1034**

1034 + 14 = 1048

1048 + 18 = 1066

1066 + 22 = 1088

1088 + 26 = 1114

34. Questions

Answer: B

64 + 64 * 1 = 128

128 + 64 * 2 = 256

256 + 64 * 3 = 448

448 + 64 * 4 = 704

704 + 64 * 5 = 1024

35. Questions

Answer: D

43 * 0.5 + 0.5 = 22

$22 * 1 + 1 = 23$

$23 * 1.5 + 1.5 = 36$

$36 * 2 + 2 =$ **74**

$74 * 2.5 + 2.5 = 187.5$

36. Questions

Answer: E

$2x^2 - 22x + 56 = 0$

$2x^2 - 8x - 14x + 56 = 0$

$2x(x - 4) - 14(x - 4) = 0$

$(x - 4)(2x - 14) = 0$

$x = 4, 7$

$y^2 - 21y + 98 = 0$

$y^2 - 14y - 7y + 98 = 0$

$y(y - 14) - 7(y - 14) = 0$

$(y - 14)(y - 7) = 0$

$y = 14, 7$

Hence, $x \leq y$

37. Questions

Answer: A

$x^2 - 14x - 120 = 0$

$x^2 - 20x + 6x - 120 = 0$

$x(x - 20) + 6(x - 20) = 0$

$(x - 20)(x + 6) = 0$

$x = +20, -6$

$y^2 + 29y + 210 = 0$

$y^2 + 15y + 14y + 210 = 0$

$y(y + 15) + 14(y + 15) = 0$

$(y + 15)(y + 14) = 0$

$y = -15, -14$

Hence, x > y

38. Questions

Answer: B

$2y^2 - 22y + 36 = 0$

$2y^2 – 18y - 4y + 36 = 0$

$2y(y – 9) - 4(y – 9) = 0$

$(y – 9) (2y - 4) = 0$

$y = + 9, + 2$

$x = \sqrt{676}$

$x = 26$

Hence, y < x

39. Questions

Answer: A

$x^2 + 30x + 104 = 0$

$x^2 + 26x + 4x + 104 = 0$

$x(x + 26) + 4(x + 26) = 0$

$(x + 26) (x + 4) = 0$

$x = - 26, - 4$

$y^2 + 29y + 154 = 0$

$y^2 + 22y + 7y + 154 = 0$

$y(y + 22) + 7(y + 22) = 0$

$(y + 22) (y + 7) = 0$

$y = - 22, - 7$

Hence, x = y, or the relationship can't be determined

40. Questions

Answer: C

$x^2 - 19x + 70 = 0$

$x^2 - 14x - 5x + 70 = 0$

$x(x -14) - 5(x -14) = 0$

$(x - 14)(x - 5) = 0$

$x = +14, +5$

$y^2 + 18y - 88 = 0$

$y^2 + 22y - 4y - 88 = 0$

$y(y + 22) - 4(y + 22) = 0$

$(y + 22)(y - 4) = 0$

$y = -22, +4$

Hence, $y < x$