1. Questions

Following questions contain two statements as statement I and statement II. You have to determine which statement/s is/are necessary to answer the question and give answer as.

Is x > y?

Statement I: $(x - y) < 0$

Statement II: $x = -y$

a. The data in statement I alone is sufficient to answer the question, while the data in statement II alone is not sufficient to answer the question

b. The data in statement II alone is sufficient to answer the question, while the data in statement I alone is not sufficient to answer the question

c. The data either in statement I alone or in statement II alone is sufficient to answer the question

d. The data in both statements I and II together are not sufficient to answer the question

e. The data in both statements I and II together are necessary to answer the question

2. Questions

A and B entered into a business with the initial investments of Rs. x and Rs. (x + 100) respectively. After 8 months, A added Rs. 200 more while B withdrew Rs. 100 from the business. If the total profit earned by them together at the end of a year is Rs. 12300, then find the value of x.

Statement I: The annual profit share of A is Rs. 6150

Statement II: The annual profit share of B is Rs. 6150

a. The data in statement II alone is sufficient to answer the question, while the data in statement I alone is not sufficient to answer the question

b. The data either in statement I alone or in statement II alone is sufficient to answer the question

c. The data in both statements I and II together are not sufficient to answer the question

d. The data in statement I alone is sufficient to answer the question, while the data in statement II alone is not sufficient to answer the question

e. The data in both statements I and II together are necessary to answer the question

3. Questions

Find the time taken by the boat to cover a distance of 175 km in downstream.

Statement I: The ratio of the speed of boat in still water to the speed of stream is 4:1.

Statement II: The time taken by boat to cover 150 km in downstream and 90 km in upstream is 12 hours.

a. The data in statement I alone is sufficient to answer the question, while the data in statement II alone is not sufficient to answer the question

b. The data in both statements I and II together are necessary to answer the question

c. The data in statement II alone is sufficient to answer the question, while the data in statement I alone is not sufficient to answer the question

d. The data either in statement I alone or in statement II alone is sufficient to answer the question

e. The data in both statements I and II together are not sufficient to answer the question

4. Questions

Find the cost price of each watch?

Statement I: The average selling price of both watches was Rs. 4800 and the selling price of second watch is Rs. 5100. A loss of 10% was incurred on the first watch.

Statement II: The overall cost price of both watches was Rs. 9000. First watch was sold at 10% loss and second watch was sold at 27.5% profit. The total profit earned by shopkeeper was 6.66%.

a. The data in statement I alone is sufficient to answer the question, while the data in statement II alone is not sufficient to answer the question

b. The data in statement II alone is sufficient to answer the question, while the data in statement I alone is not sufficient to answer the question

c. The data either in statement I alone or in statement II alone is sufficient to answer the question

d. The data in both statements I and II together are necessary to answer the question

e. The data in both statements I and II together are not sufficient to answer the question

5. Questions

If Siva is 32 years elder than Sai, then find the present age of Siva.

Statement I: 8 years ago, Siva was 5 times as old as Sai.

Statement II: After 12 years, the ratio of ages of Siva to Sai will be 15:7

a. The data either in statement I alone or in statement II alone is sufficient to answer the question

b. The data in statement I alone is sufficient to answer the question, while the data in statement II alone is not sufficient to answer the question

c. The data in statement II alone is sufficient to answer the question, while the data in statement I alone is not sufficient to answer the question

d. The data in both statements I and II together are not sufficient to answer the question

e. The data in both statements I and II together are necessary to answer the question

6. Questions

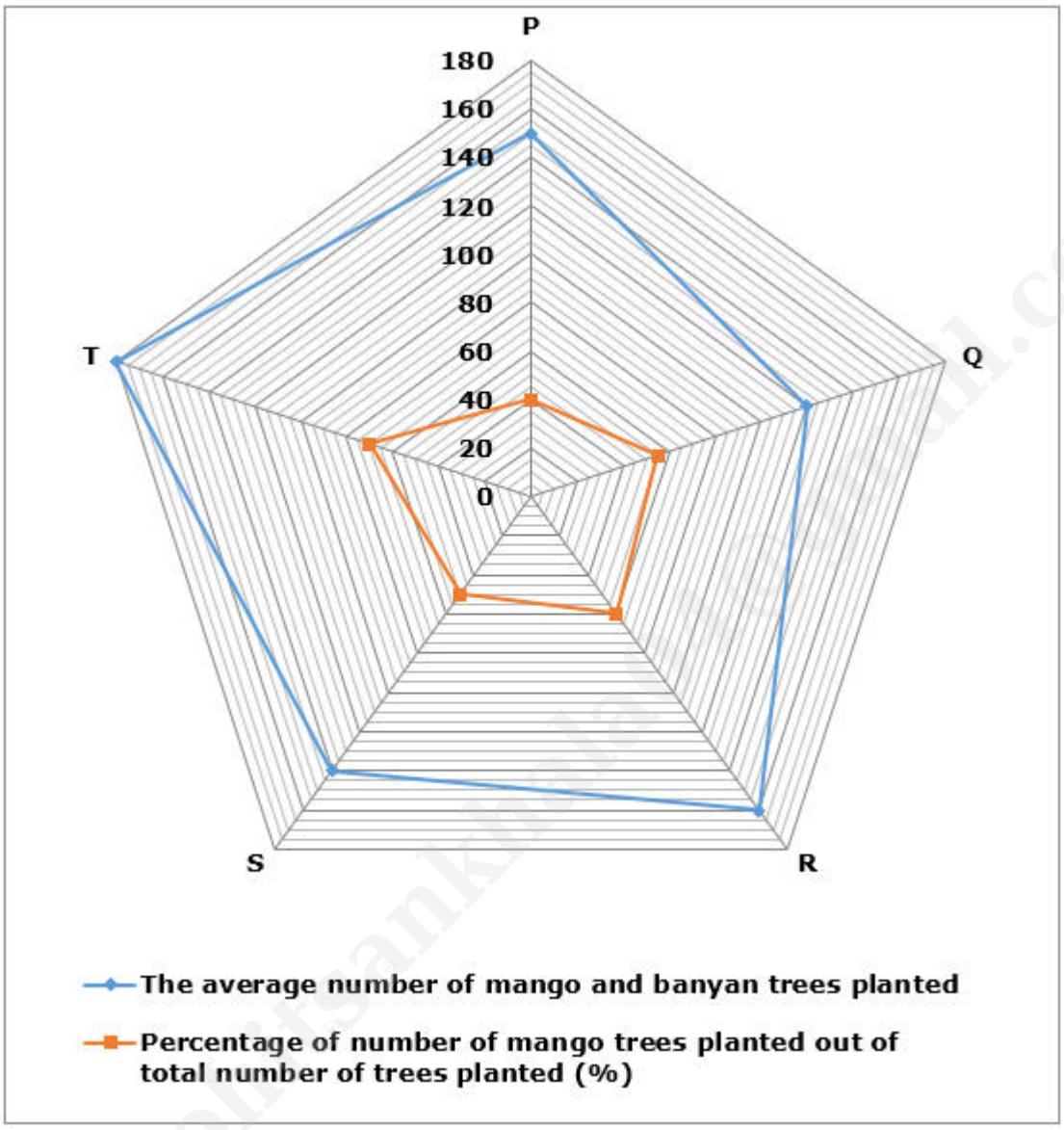
Study the following data carefully and answer the questions given below:

The radar graph given below shows the average number of mango and banyan trees planted by the students

of five different schools namely P, Q, R, S and T and the percentage of number of mango trees planted out of total number of trees planted by the respective schools.

Note:

The total number of trees planted by each school = the number of mango trees planted + the number of banyan trees planted.



If the number of banyan trees planted by students in school U is 40% more than that of mango trees while the average number of trees planted by students in school S and U together is 332, then find the number of banyan trees planted by students in school U.

a. 200

b. 274

c. 160

d. 224

e. 288

7. Questions

If the number of lemon trees planted by students in school S is 20% more than that of mango trees in the same school while the average number of trees (mango + lemon + banyan) planted by students in school Q is 128, then find the ratio of the number of lemon trees planted by students of school S to that of school Q.

a. 6:5

b. 7:5

c. 7:6

d. 5:3

e. 4:5

8. Questions

In school R,7 out of every 12 mango trees are planted by girls and 9 out of every 16 banyan trees are planted by girls. Find the total number of trees (mango + banyan) is planted by boys.

a. 155

b. 136

c. 122

d. 186

e. 145

9. Questions

The number of mango trees planted by students in school T is how much percent of the sum of the number of banyan trees planted by students in school P and S together?

a. 74.25%

b. 84.25%

c. 72%

d. 88%

e. 78.75%

10. Questions

If the sum of the number of banyan trees planted by students in school P and Q together is (2x + 88) while the number of banana tree planted by students in school P is (x – 4), then find the total number of trees planted (banyan + banana + mango) trees by students in school P?

a. 345

b. 396

c. 288

d. 324

e. 408

11. Questions

Study the following data carefully and answer the questions given below:

There are five hotels i.e. A, B, C, D and E. Each of the given five hotels has two halls (P and Q). The given table chart shows the number of chairs (for males and females) in each of the two halls and the ratio of chairs reserved for males to females in each hall, of each of the given five hotels.

Some data is given while some are missing. You have to find the missing data and answer accordingly.

Hotels	Hall P		Hall Q	
	The total number of chairs	The ratio of the number of reserved for males to females	The total number of chairs	The ratio of the number of reserved for males to females
A	-	9:11	240	1:3
B	320	-	300	2:3
C	250	2:3	150	-
D	-	4:1	-	7:13
E	280	-	360	-

The total number of chairs reserved in hall P of hotel A is 50% more than that of hotel B. If 96 chairs reserved in hall Q of hotel C are reserved for males, then find the difference between the number of chairs reserved for females in hall P of hotel A and hall Q of hotel C.

a. 188

b. 243

c. 260

d. 210

e. 168

12. Questions

The number of chairs reserved for males in hall P of hotel B is 72 more than that in hall Q of hotel B. Find the ratio of the number of chairs reserved for females in hall P to that in hall Q, of hotel B.

a. 32:45

b. 45:31

c. 30:43

d. 3:8

e. 23:32

13. Questions

If the number of chairs reserved for females in hall P of hotel D and the number of chairs reserved for males in hall P of hotel 'C' are same, then the total number of chairs in hall Q of hotel A is how much percent more/less than that in hall P of hotel D?

a. 32% more

b. 56% more

c. 44% less

d. 26% more

e. 52% less

14. Questions

The difference between the number of chairs reserved for males and females in hall Q of hotel D is 120. The total number of chairs reserved in hall Q of hotel F is 160 more than that of hotel D. If 45% of number of chairs reserved in hall Q of hotel F are reserved for males, then find the number of chairs reserved for females in hall Q of hotel F?

a. 336

b. 308

c. 408

d. 384

e. 456

15. Questions

The number of chairs reserved for males in hall P of hotel E is 40 less than that in hall Q of hotel E and the number of chairs reserved for females in hall P of hotel E is 80% that in hall Q of hotel E. The number of chairs reserved for males in hall Q of hotel E is how much of the total number of chairs in hall Q of hotel E?

a. 44.44%

b. 42.85%

c. 36.36%

d. 54.54%

e. 27.5%

16. Questions

A container contains milk and water in the ratio of x: (x + 6). If the quantity of milk in the mixture is doubled, then the ratio of the quantity of milk to water in the container becomes 8:5. Find the difference between the initial quantity of milk and water in the mixture.

a. 5

b. 6

c. 12

d. 18

e. 22

17. Questions

20 years ago, the sum of ages of Sam and Mani was equal to Dev's age at that time. 10 years ago, the ratio of ages of Dev to Mani was 8:7. If the present age of Sam is half of the Mani's present age, then find the present age of Dev.

a. 52 years

b. 60 years

c. 58 years

d. 64 years

e. 55 years

18. Questions

A bike has to cover some distance in 15 hours. The bike headed on its usual journey but due to an engine fault, could continue only for first 5 hours of the journey with 60% of its usual speed and takes another 2 hours for repair. If the bike to reach destination in desired time, then find the percentage increase in the usual speed of the bike?

a. 64%

b. 45%

c. 30%

d. 75%

e. 50%

19. Questions

Amit distributed 65% of his amount among one daughter, one son and his wife in the ratio of 3:5:8 respectively. The difference between the amount received by daughter and wife is Rs. (x + 250). If Amit had Rs. (6x – 2000), then find the value of x.

a. 3480

b. 2680

c. 3250

d. 3000

e. 3600

20. Questions

A shopkeeper marked an article 40% above the cost price and sold it for Rs. 8400 after offering a discount of 20% and earned a profit of n%. If the shopkeeper wants to earn a profit of (n + 10)%, then find the selling price of the article.

a. Rs. 9150

b. Rs. 8400

c. Rs. 10600

d. Rs. 11200

e. Rs. 9800

21. Questions

Time taken by P to do a work is half the time taken by Q to do the same work. Q and R together can do the same work in 18 days and P and R together can do it in 14 days. Find the time taken by P and Q work together to complete the work?

a. 15 days

b. 36 days

c. 28 days

d. 21 days

e. 32 days

22. Questions

There are 4 red pens, (x – 1) green pens and (x + 1) blue pens in the box. If 3 pens are chosen randomly, the probability of getting at least one blue pen is 37/44, then find the value of x?

a. 3

b. 4

c. 5

d. 6

e. 2

23. Questions

The perimeter of a rectangle is 40 cm and its area is 99 cm^2. If the side of the square is 3 cm less

than the breadth of the rectangle, then find the perimeter of the square?

a. 24 cm

b. 48 cm

c. 28 cm

d. 32 cm

e. 30 cm

24. Questions

The speed of a boat in still water is 16 km/hr more than that of the stream. The time taken by the boat to cover 144 km in downstream is equal to the time taken by the boat to cover 72 km in upstream, If the time taken by the boat to cover (y + 100) km in still water is 7 hours, then find the value of y.

a. 56

b. 72

c. 68

d. 88

e. 48

25. Questions

A and B together started a business by investing Rs. x and Rs. (x + 4000) respectively. After 6 months, A added Rs. 5000 to his initial investment and C joins them by investing Rs. (x + 10000). After a year, the profit share of A and B together is Rs. 15500 out of a total profit of Rs. 20500. Find the sum invested by C.

a. Rs. 24000

b. Rs. 20000

c. Rs. 30000

d. Rs. 28000

e. Rs. 36000

26. Questions

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

$\{(695.88/6.04) \div (152.11/37.88)\} + (183.04/3.12) = ?^2 + 53.88$

a. 12

b. 5

c. 4

d. 8

e. 6

27. Questions

{(7.14 * 3.2^2)/11.88} * (6^2/5) + (423.04/14.78) = ? * 6.04

a. 8

b. 11

c. 16

d. 20

e. 13

28. Questions

(163.8/8.04) * (512.34/328.1) + 12.3% of ? = √3135.88

a. 200

b. 246

c. 300

d. 288

e. 254

29. Questions

√2704.05 + (23.05^2 - 13.28^2) ÷ 20 = ?

a. 84

b. 77

c. 60

d. 70

e. 64

30. Questions

24.99% of 1619.78 + (1259.8 ÷ 12.25) = ? * 16.98

a. 21

b. 27

c. 30

d. 36

e. 44

31. Questions

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

1650, 1625, ?, 1360, 848, 767

a. 1581

b. 1477

c. 1473

d. 1565

e. 1409

32. Questions

120, 236, 344, ?, 536, 812

a. 476

b. 576

c. 676

d. 524

e. 488

33. Questions

124, ?, 310, 393, 472, 545

a. 289

b. 221

c. 234

d. 264

e. 272

34. Questions

31, 56, ?, 130, 179, 236

a. 86

b. 99

c. 89

d. 72

e. 78

35. Questions

5, ?, 13, 40, 161, 806

a. 8

b. 10

c. 11

d. 6

e. 7

36. Questions

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

I). $(y + 2)^4 = 1296$

II). $2x^2 + 37x + 170 = 0$

a. $x \geq y$

b. $x \leq y$

c. $x < y$

d. x = y or the relation cannot be established

e. $x > y$

37. Questions

I). $x^2 - 28x + 132 = 0$

II). $y^2 - 52y + 672 = 0$

a. $x > y$

b. $x \geq y$

c. $x < y$

d. x = y or the relation cannot be established

e. $x \leq y$

38. Questions

I). $y^2 - 15y + 56 = 0$

II). $x^2 - 32x + 240 = 0$

a. $x > y$

b. $x \geq y$

c. $x \leq y$

d. $x = y$ or the relation cannot be established

e. $x < y$

39. Questions

I). $x^3 = 729$

II). $y^2 + 135 = 24y$

a. $x > y$

b. $x \geq y$

c. $x < y$

d. $x = y$ or the relation cannot be established

e. $x \leq y$

40. Questions

I). $x^2 + 24x + 128 = 0$

II). $y^2 + 3y - 208 = 0$

a. $x > y$

b. $x \geq y$

c. $x \leq y$

d. $x < y$

e. $x = y$ or the relation cannot be established

Explanations:

1. Questions

Answer: A

Statement I:

If $x - y < 0$

$y - x > 0$

Therefore, y is more than x

So, the data in statement I alone is sufficient to answer the question.

Statement II:

If y is negative, then $x > y$

And if y is positive, then $x < y$

So, the data in statement II alone is not sufficient to answer the question.

Therefore, the data in statement I alone is sufficient to answer the question, while the data in statement II alone is not sufficient to answer the question.

Hence, option A.

2. Questions

Answer: C

The ratio of profit share of A to B = $[(x * 8) + (x + 200) * 4]: [(x + 100) * 8 + (x + 100 - 100) * 4] = [8x + 4x + 800]: [8x + 800 + 4x]$

$= \{12x + 800\}: \{12x + 800\}$

Statement I:

$\{12x + 800\}/ \{12x + 800\} = 6150/ (12300 - 6150) = 1/1$

Since, we cannot find value of x.

So, the data in statement I alone is not sufficient to answer the question.

Statement II:

$\{12x + 800\}/ \{12x + 800\} = (12300 - 6150)/ 6150 = 1/1$

Since, we cannot find value of x.

So, the data in statement II alone is not sufficient to answer the question.

Therefore, the data in both statements I and II together are not sufficient to answer the question.

Hence, option C.

3. Questions

Answer: B

Statement I:

Let the speed of a boat in still water and the speed of a stream be 4x km/hr and x km/hr respectively.

The speed of boat in downstream = $4x + x = 5x$ km/hr

The speed of boat in upstream = $4x - x = 3x$ km/hr

Therefore, we cannot know that the value of x. Since, we cannot find the time taken by boat to cover 175 km in downstream.

So, the data in statement I alone is not sufficient to answer the question.

Statement II:

Let the speed of boat in downstream and upstream be 'D' km/hr and 'U' km/hr respectively.

According to the data,

(150/D) + (90/U) = 12

Since, we cannot find the value of D and U.

So, the data in statement II alone is not sufficient to answer the question.

Combining both statements:

(150/5x) + (90/3x) = 12

30/x + 30/x = 12

x = 60/12

x = 5

The time taken by boat to cover 175 km in downstream = 175/ (5 * 5) = 7 hours

Therefore, the data in both statements I and II together are necessary to answer the question.

Hence, option B

4. Questions

Answer: B

Statement I:

Let the cost price of first watch be Rs. 100x

The selling price of first watch = 100x * (90/100) = Rs. 90x

The total selling price of both watches = 4800 * 2 = Rs. 9600

90x + 5100 = 9600

90x = 4500

x = 50

The cost price of first watch = 50 * 100 = Rs. 5000

But we cannot calculate cost price of second watch.

So, the data in statement I alone is not sufficient to answer the question.

Statement II:

Let the cost price of first watch be Rs. 100x

Then, the cost price of second watch = Rs. (9000 – 100x)

90% of 100x + 127.5% of (9000 – 100x) = 106.66% of 9000

90x + 11475 – 127.5x = 9600

37.5x = 1875

x = 50

The cost price of first watch = 100 * 50 = Rs. 5000

The cost price of second watch = 9000 – 5000 = Rs. 4000

So, the data in statement II alone is sufficient to answer the question, while the data in statement I alone is not sufficient to answer the question.

Hence, option B

5. Questions

Answer: A

Let the present age of Sai be x years

So, the present age of Siva = (x + 32) years

Statement I:

According to the data,

x + 32 – 8 = 5 * (x – 8)

x + 24 = 5x – 40

4x = 64

x = 16

The present age of Siva = 16 + 32 = 48 years

So, the data in statement I alone is sufficient to answer the question.

Statement II:

(x + 32 + 12)/ (x + 12) = 15/7

7 * (x + 44) = 15 * (x + 12)

7x + 308 = 15x + 180

8x = 128

x = 16

So,the data in statement II alone is sufficient to answer the question.

Therefore, the data either in statement I alone or in statement II alone is sufficient to answer the question.

Hence, option A

6. Questions

In school P:

The total number of trees planted by students = 2 * 150 = 300

The number of mango trees planted by students = 300 * (40/100) = 120

The number of banyan trees planted by students = 300 – 120 = 180

Similarly, we can calculate other values.

Schools	The total number of trees planted	The number of mango trees planted	The number of banyan trees planted
P	300	120	180
Q	240	132	108
R	320	192	128
S	280	140	140
T	360	252	108

Answer: D

The total number of trees planted by students in school U = (332 * 2) – 280 = 664 – 280 = 384

Let the number of mango trees planted by students in school U be x

So, the number of banyan trees planted by students in school U = x * (140/100) = 1.4x

x + 1.4x = 384

x = 384/2.4

x = 160

The number of banyan trees planted by students in school U = 384 – 160 = 224

7. Questions

In school P:

The total number of trees planted by students = 2 * 150 = 300

The number of mango trees planted by students = 300 * (40/100) = 120

The number of banyan trees planted by students = 300 – 120 = 180

Similarly, we can calculate other values.

Schools	The total number of trees planted	The number of mango trees planted	The number of banyan trees planted
P	300	120	180
Q	240	132	108
R	320	192	128
S	280	140	140
T	360	252	108

Answer: C

The number of lemon trees planted by students in school S = 140 * (120/100) = 168

The total number of trees (mango + lemon + banyan) planted by students in school Q = 128 * 3 = 384

The number of lemon trees planted by students in school Q = 384 – 240 = 144

Required ratio = 168:144 = 7:6

8. Questions

In school P:

The total number of trees planted by students = 2 * 150 = 300

The number of mango trees planted by students = 300 * (40/100) = 120

The number of banyan trees planted by students = 300 – 120 = 180

Similarly, we can calculate other values.

Schools	The total number of trees planted	The number of mango trees planted	The number of banyan trees planted
P	300	120	180
Q	240	132	108
R	320	192	128
S	280	140	140
T	360	252	108

Answer: B

The number of mango trees planted by boys in school R = 192 * [1 - (7/12)] = 192 * (5/12) = 80

The number of banyan trees planted by boys in school R = 128 * [1 - (9/16)] = 128 * (7/16) = 56

Required total = 80 + 56 = 136

9. Questions

In school P:

The total number of trees planted by students = 2 * 150 = 300

The number of mango trees planted by students = 300 * (40/100) = 120

The number of banyan trees planted by students = 300 – 120 = 180

Similarly, we can calculate other values.

Schools	The total number of trees planted	The number of mango trees planted	The number of banyan trees planted
P	300	120	180
Q	240	132	108
R	320	192	128
S	280	140	140
T	360	252	108

Answer: E

The sum of the number of banyan trees planted by students in school P and S together = 180 + 140 = 320

Required percentage = (252/320) * 100 = 78.75%

10. Questions

In school P:

The total number of trees planted by students = 2 * 150 = 300

The number of mango trees planted by students = 300 * (40/100) = 120

The number of banyan trees planted by students = 300 – 120 = 180

Similarly, we can calculate other values.

Schools	The total number of trees planted	The number of mango trees planted	The number of banyan trees planted
P	300	120	180
Q	240	132	108
R	320	192	128
S	280	140	140
T	360	252	108

Answer: B

The sum of the number of banyan trees planted by students in school P and Q together = 180 + 108 = 288

According to the data,

2x + 88 = 288

2x = 200

x = 100

The number of banana tree planted by students in school P = 100 – 4 = 96

The total number of trees planted (banyan + banana + mango) trees by students in school P = 120 + 180 + 96 = 396

11. Questions

Answer: D

The total number of chairs reserved in hall P of hotel A = 320 * (150/100) = 480

The number of chairs reserved for females in hall P of hotel A = 480 * (11/20) = 24 * 11 = 264

The number of chairs reserved for females in hall Q of hotel C = 150 – 96 = 54

Required difference = 264 – 54 = 210

12. Questions

Answer: A

The number of chairs reserved for males in hall Q of hotel B = 300 * (2/5) = 120

The number of chairs reserved for females in hall Q of hotel B = 300 – 120 = 180

The number of chairs reserved for males in hall P of hotel B = 120 + 72 = 192

The number of chairs reserved for females in hall P of hotel B = 320 – 192 = 128

Required ratio = 128:180 = 32:45

13. Questions

Answer: E

The number of chairs reserved for males in hall P of hotel 'C' = 250 * (2/5) = 100

The number of chairs reserved for females in hall P of hotel D = 100

The total number of chairs reserved in hall P of hotel D = 100 * (5/1) = 500

Required percentage = {(500 – 240)/500} * 100 = 260/5 = 52% less

14. Questions

Answer: B

Let the number of chairs reserved for males and females in hall Q of hotel D be 7x and 13x respectively.

According to the data,

13x – 7x = 120

x = 120/6

x = 20

The total number of chairs reserved in hall Q of hotel D = 20 * 20 = 400

The total number of chairs reserved in hall Q of hotel F = 400 + 160 = 560

The number of chairs reserved for females in hall Q of hotel F = 560 * [1 – (45/100)] = 560 * (55/100) = 308

15. Questions

Answer: A

Let the number of chairs reserved for males in hall Q of hotel E be x.

So, the number of chairs reserved for males in hall P of hotel E = x – 40

The ratio of the number of chairs reserved for females in hall P to that in hall Q of hotel E = 80:100 = 4:5

Let the number of chairs reserved for females in hall P of hotel E to that in hall Q of hotel E be 4y and 5y respectively.

x - 40 + 4y = 280

x + 4y = 320 ----> (1)

x + 5y = 360 ---->(2)

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

y = 40,

x = 320 – (4 * 40) = 320 – 160

x = 160

The number of chairs reserved for males in hall Q of hotel E = 160

Required percentage = (160/360) * 100 = 44.44%

16. Questions

Answer: B

Let the quantity of milk and water in the container initially be 'kx' ml and {k * (x + 6)} ml respectively.

According to the question,

(2 * kx)/ {k * (x + 6)} = 8/5

10kx = 8kx + 48

10x = 8x + 48

2x = 48

x = 24

Required ratio = (30 – 24) = 6

17. Questions

Answer: C

Let the present age of Mani be 2x years.

So, the present age of Sam = 2x * (1/2) = x years

20 years ago, age of Dev = (x – 20) + (2x – 20) = (3x – 40) years

So, 10 years ago, age of Dev = 3x – 40 + 10 = (3x – 30) years

10 years ago, age of Mani = (2x – 10) years

According to the question,

(3x – 30)/ (2x – 10) = 8/7

21x – 210 = 16x – 80

5x = 130

x = 130/5 = 26

The present age of Dev = (3 * 26) – 30 + 10 = 78 – 20 = 58 years

18. Questions

Answer: E

Let the usual speed of the bike be x km/hr

So, the total distance to be covered = 15 * x = 15x km

The distance covered in first 5 hours = 5x * (60/100) = 3x km

So, the distance to be covered = 15x – 3x = 12x km

And the remaining time = 15 – 5 – 2 = 8 hours

So, the speed of the bike = 12x/8 = 1.5x km/hr

The percentage increase in the speed of the bike = {(1.5x – x)/x} * 100 = 50%

19. Questions

Answer: D

According to the question,

(6x – 2000) * (65/100) * [(8 – 3)/16] = (x + 250)

(6x – 2000) * (13/20) * (5/16) = (x + 250)

13 * (6x – 2000) = 64 * (x + 250)

78x – 26000 = 64x + 16000

14x = 42000

x = 3000

20. Questions

Answer: A

Let the cost price of the article be Rs. x

The marked price of the article = x * (140/100) = Rs. 1.4x

The selling price of the article = 1.4x * (80/100) = Rs. 1.12x

According to the question,

1.12x = 8400

x = 7500

The cost price of the article = Rs. 7500

Profit percentage = n% = [(1.12x – x)/x] * 100 = 12%

n = 12

n + 10 = 12 + 10 = 22

The new selling price of the article = 7500 * (122/100) = Rs. 9150

21. Questions

Answer: D

Let the total work be 126 units {L.C.M (14 and 18)}

The efficiency of Q and R together = 126/18 = 7 units/day

The efficiency of P and R together = 126/14 = 9 units/day

According to the question,

Let the efficiency of Q and R be 'x' units/day and 'y' units/day respectively.

x + y = 7 ---->(1)

2x + y = 9 ---->(2)

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

x = 2

So, the efficiency of P = 2 * x = 2 * 2 = 4 units/day

Required time taken = 126/ (2 + 4) = 21 days

22. Questions

Answer: B

The total number of pens in the box = 4 + x – 1 + x + 1 = (4 + 2x) pens

If 3 pens are chosen randomly, the probability of getting no blue pens = 1 – (37/44) = 7/44

According to the question,

$^{(4 + x - 1)}C_3 / {}^{(4 + 2x)}C_3 = 7/44$

{(x + 3) (x + 2) (x + 1)} / {(4 + 2x) (2x + 3) (2x + 2)} = 7/44

{(x + 3) (x + 2) (x + 1)} / {2 * (2 + x) (2x + 3) (x + 1) * 2} = 7/44

(x + 3)/ (2x + 3) = 7/11

$11x + 33 = 14x + 21$

$3x = 12$

$x = 4$

23. Questions

Answer: A

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

$2 * (l + b) = 40$

$l + b = 20$

$b = 20 – l$ -----> (1)

$l * b = 99$

$l * (20 – l) = 99$

$20l - l^2 = 99$

$l^2 - 20l + 99 = 0$

$l^2 - 11l – 9l + 99 = 0$

$l (l – 11) – 9 (l – 11) = 0$

$(l – 11) (l – 9) = 0$

If $l = 9$, $b = 20 – 9 = 11$ cm [Since, length cannot be less than the breadth]

So, $l = 11$, $b = 20 – 11 = 9$ cm

The side of the square = 9 – 3 = 6 cm

The perimeter of a square = 6 * 4 = 24 cm

24. Questions

Answer: C

Let the speed of the stream be x km/hr

So, the speed of the boat in still water = (x + 16) km/hr

According to the question,

$144/ (x + x + 16) = 72/16$

$2 * 16 = 2x + 16$

$x = (32 – 16)/2$

$x = 8$

The speed of the boat in still water = 8 + 16 = 24 km/hr

(y + 100) = 24 * 7

y = 168 – 100

y = 68

25. Questions

Answer: C

The ratio of profit share of A, B and C = [(x * 6) + (x + 5000) * 6]: [(x + 4000) * 12]: [(x + 10000) * 6]

= [2x + 5000]: [2x + 8000]: [x + 10000]

According to the question,

(2x + 5000 + 2x + 8000)/ (2x + 5000 + 2x + 8000 + x + 10000) = 15500/20500

(4x + 13000)/ (5x + 23000) = 31/41

164x + 533000 = 155x + 713000

9x = 180000

x = 20000

The amount invested by C = 20000 + 10000 = Rs. 30000

26. Questions

Answer: E

$\{(695.88/6.04) \div (152.11/37.88)\} + (183.04/3.12) = ?^2 + 53.88$

$\{(696/6) \div (152/38)\} + (183/3) = ?^2 + 54$

$\{116 \div 4\} + 61 = ?^2 + 54$

$29 + 61 – 54 = ?^2$

$?^2 = 36$

? = 6

Hence, option E

27. Questions

Answer: B

$\{(7.14 * 3.2^2)/11.88\} * (6^2/5) + (423.04/14.78) = ? * 6.04$

$\{(7 * 9)/12\} * (36/5) + (423/15) = ? * 6$

(189/5) + (423/15) = ? * 6

(567 + 423)/15 = ? * 6

990/15 = ? * 6

? = 11

Hence, option B

28. Questions

Answer: A

(163.8/8.04) * (512.34/328.1) + 12.3% of ? = √3135.88

(164/8) * (512/328) + 12% of ? = √3136

(164 * 64)/328 + 12% of ? = 56

12% of ? = 56 – 32

12% of ? = 24

? = 200

Hence, option A

29. Questions

Answer: D

$\sqrt{2704.05} + (23.05^2 - 13.28^2) \div 20 = ?$

$\sqrt{2704} + (23^2 - 13^2) \div 20 = ?$

52 + (529 – 169) ÷ 20 = ?

52 + 360/20 = ?

? = 52 + 18

? = 70

Hence, option D

30. Questions

Answer: C

24.99% of 1619.78 + (1259.8 ÷ 12.25) = ? * 16.98

25% of 1620 + (1260 ÷ 12) = ? * 17

405 + 105 = ? * 17

? = 510/17 = 30

Hence, option C

31. Questions

Answer: E

The given series follows the following pattern:

$1650 - 5^2 = 1625$

$1625 - 6^3 = 1409$

$1409 - 7^2 = 1360$

$1360 - 8^3 = 848$

$848 - 9^2 = 767$

Hence, option E

32. Questions

Answer: A

The given series follows the following pattern:

120 236 344 **476** 536 812

+116 +108 +132 +60 +276

-8 +24 -72 +216

Hence, option A

33. Questions

Answer: B

The given series follows the following pattern: Consecutive prime numbers are added in descending order.

124 + 97 = 221

221 + 89 = 310

310 + 83 = 393

393 + 79 = 472

472 + 73 = 545

Hence, option B

34. Questions

Answer: C

The given series follows the following pattern: Common double difference

31 56 **89** 130 179 236

+25 +33 +41 +49 +57

+8 +8 +8 +8

Hence, option C

35. Questions

Answer: D

The given series follows the following pattern:

(5 * 1) + 1 = 6

(6 * 2) + 1 = 13

(13 * 3) + 1 = 40

(40 * 4) + 1 = 161

(161 * 5) + 1 = 806

Hence, option D

36. Questions

Answer: C

From I,

$(y + 2)^4 = 1296$

y + 2 = +6, -6

y = +4, -8

From II,

$2x^2 + 37x + 170 = 0$

$2x^2 + 17 + 20 + 170 = 0$

x (2x + 17) + 20 (x + 17) = 0

(2x + 17) (x + 20) = 0

x = -17/2, -10

X	relation	Y
-17/2	<	+4
-17/2	<	-8
-10	<	+4
-10	<	-8

So, x < y

Hence, option C

37. Questions

Answer: C

From I,

$x^2 - 28x + 132 = 0$

$x^2 - 22x – 6x + 132 = 0$

$x (x – 22) – 6 (x – 22) = 0$

$(x – 22) (x – 6) = 0$

$x = +22, +6$

From II,

$y^2 - 52y + 672 = 0$

$y^2 - 28y – 24y + 672 = 0$

$y (y – 28) – 24 (y – 28) = 0$

$(y – 28) (y – 24) = 0$

$y = +28, +24$

X	Relation	Y
+22	<	+28
+22	<	+24
+6	<	+28
+6	<	+24

So, $x < y$

Hence, option C

38. Questions

Answer: A

From I,

$y^2 - 15y + 56 = 0$

$y^2 - 7y – 8y + 56 = 0$

$y(y – 7) – 8 (y – 7) = 0$

$(y – 7) (y – 8) = 0$

$y = +7, +8$

From II,

$x^2 - 32x + 240 = 0$

$x^2 - 12x – 20x + 240 = 0$

$x(x - 12) - 20(x - 12) = 0$

$(x - 12)(x - 20) = 0$

$x = +12, +20$

x	Relation	Y
+12	>	+7
+12	>	+8
+20	>	+7
+20	>	+8

So, $x > y$

Hence, option A

39. Questions

Answer: E

From I,

$x^3 = 729$

$x = 9$

From II,

$y^2 + 135 = 24y$

$y^2 - 24y + 135 = 0$

$y^2 - 15y - 9y + 135 = 0$

$y(y - 15) - 9(y - 15) = 0$

$(y - 15)(y - 9) = 0$

$y = +15, +9$

So, $x \leq y$

Hence, option E

40. Questions

Answer: E

From I,

$x^2 + 24x + 128 = 0$

$x^2 + 16x + 8x + 128 = 0$

$x(x + 16) + 8(x + 16) = 0$

$(x + 16)(x + 8) = 0$

$x = -16, -8$

From II,

$y^2 + 3y - 208 = 0$

$y^2 + 16y - 13y - 208 = 0$

$y(y + 16) - 13(y + 16) = 0$

$(y + 16)(y - 13) = 0$

$y = -16, +13$

x	Relation	Y
-16	=	-16
-16	<	+13
-8	>	-16
-8	<	+13

So, no relation can be established between x and y.

Hence, option E