1. Questions

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

Find the total number of students in the class?

Statement I: In a class, the number of boys is 4 more than that of girls and the average weight of boys is 42 kg and the average weight of girls is 32kg.

Statement II: The average weight of the class is 38 kg. If a teacher whose weight is 80 kg is included and then the average weight of the class increases by 2 kg.

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

2. Questions

Find the volume of the cube?

Statement I: The ratio of the side of the cube to the radius of the hemisphere is 10:7.

Statement II: The total surface area of the cube is 138 cm^2 more than the total surface area of the hemisphere.

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

3. Questions

A total amount of Rs.50000 was distributed among three friends, Ravi, Neha, and Rahul. Who received the least amount?

Statement I: The amount received by Ravi is $1/4^{th}$ of the total amount received by Neha and Rahul together.

Statement II: The amount received by Neha is $2/7^{th}$ of the sum of the amount received by Ravi and Rahul together.

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 given in both statements I and II together are not sufficient to answer the question.

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

4. Questions

Find the age of Tom after five years.

Statement I: The average present age of Tom, Sam, Ben and John is 25 years and the ratio of the age of Tom 10 years hence to the present age of Sam is 5:2 and the difference between the present age of Sam and John is equal to the age present of Ben**.**

Statement II: The ratio of the age of Tom 4 years ago is 20% more than the age of John 6 years hence.

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 given in both statements I and II together are not sufficient to answer the question.

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

5. Questions

What is the minimum score needed to pass a coding challenge?

Statement I: Programmer X scored 35% in the challenge and missed passing by 30points. Programmer Y scored 40% and his score was 20points above the passing score.

Statement II: Programmer X scored 30% of the total points in the challenge and missed passing by 80 points. If he had scored 150 more points, his percentage would have been 45%.

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.

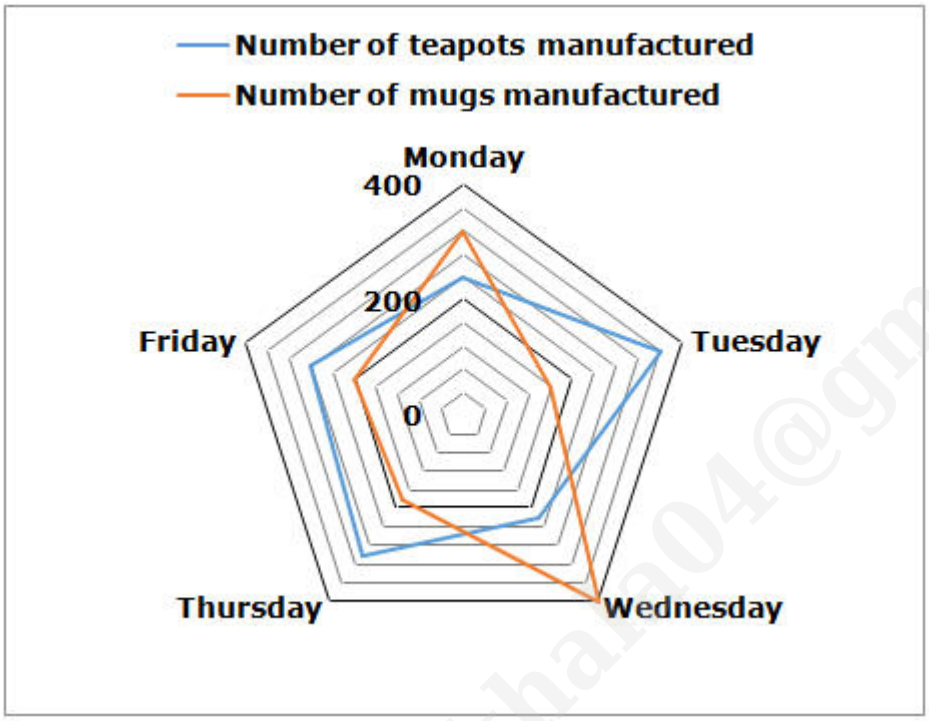
d. The data given in both statements I and II together are not sufficient to answer the question.

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

6. Questions

Study the following information carefully and answer the questions.

The given radar graph shows the number of teapots manufactured on five different days i.e. Monday, Tuesday, Wednesday, Thursday and Friday and also given the number of mugs manufactured on these five days.



Out of the total number of teapots and mugs manufactured on Friday, 25% are unsold. If the ratio of the number of teapots sold to unsold on Friday is 5:2, then find the number of mugs sold on Friday.

a. 160

b. 120

c. 180

d. 140

e. None of these

7. Questions

If the total number of teapots and mugs manufactured on Saturday is x and the number of teapots manufactured on Saturday is (0.5x - 50) and the number of mugs manufactured on Saturday is 150% more than that of Friday, then find the number of teapots manufactured on Saturday.

a. 250

b. 140

c. 360

d. 400

e. 280

8. Questions

Find the sum of the average number of teapots and mugs manufactured on Wednesday and the average number of mugs manufactured on Monday and Thursday together?

a. 640

b. 400

c. 560

d. 720

e. None of these

9. Questions

If the ratio of the number of teapots manufactured on Monday to Sunday is 6:7 and the number of mugs manufactured on Sunday is 25% less than that of Monday, then the total number of teapots and mugs manufactured on Sunday is what percentage of the number of mugs manufactured on Wednesday?

a. 100%

b. 130%

c. 150%

d. 110%

e. 170%

10. Questions

If the ratio of the number of mugs sold on Monday to Tuesday is 11:5 and the number of mugs unsold on Tuesday is 60% of the number of mugs unsold on Monday, then find the total number of mugs unsold on Monday and Tuesday together.

a. 160

b. 200

c. 150

d. 110

e. 180

11. Questions

Study the following information carefully and answer the questions.

The given missing table chart shows the total number of people who bought bowls (plastic + ceramic + glass) on five different days i.e. Monday, Tuesday, Wednesday, Thursday and Friday and also given the percentage of the number of people who bought plastic bowls on these five days and also given the ratio of the number of people who bought ceramic to glass bowls on these five days.

Days	The total number of people who bought bowls	% of the number of people who bought plastic bowls	Ratio of the number of people who bought ceramic to glass bowls
Monday	850	-	1:2
Tuesday	770	28.56%	4:7
Wednesday	640	25%	-
Thursday	-	30%	4:3
Friday	560	37.5%	-

If the ratio of the number of people who bought plastic bowls on Monday to Tuesday is 17:11, then find the difference between the number of people who bought ceramic bowls on Monday and Tuesday?

a. 30

b. 50

c. 10

d. 70

e. None of these

12. Questions

If the number of people who bought plastic bowls on Thursday is 270 and the total number of people who bought glass bowls on Tuesday, Thursday and Friday together is 760, then find the ratio of the number of people who bought ceramic to glass bowls on Friday.

a. 8:3

b. 7:4

c. 3:2

d. 5:6

e. None of these

13. Questions

If the number of people who bought ceramic and glass bowls on Friday is (x + 70) and x respectively and the number of people who bought ceramic bowls on Thursday is (2x + 80) and the

total number of people who bought bowls on Tuesday and Thursday together is (y + 670), then find the value of y.

a. 850

b. 1000

c. 740

d. 910

e. 1050

14. Questions

The number of people who bought ceramic and glass bowls on Friday is how much percentage more/less than the number of people who bought ceramic bowls on Tuesday?

a. 55% less

b. 30% more

c. 40% less

d. 75% more

e. None of these

15. Questions

If thetotal number of people who bought ceramic and glass bowls on Saturday is 8.33% more than that of Wednesday and the total number of people who bought plastic bowls on Friday and Saturday is 360, then find the difference between the total number of people who bought bowls on Monday and Saturday.

a. 180

b. 310

c. 250

d. 110

e. None of these

16. Questions

A box contains 60 balls which is in three different colour i.e. red, yellow and green. The probability of getting a red ball is 5/12 and the probability of getting a yellow ball is 1/4. If two balls are drawn at random from the box, then find the probability that the balls are green colour?

a. 20/177

b. 19/177

c. 31/177

d. 10/177

e. None of these

17. Questions

A and B start the foot stall business with investments of Rs.50000 and Rs.60000 respectively. After x months, C joins the business with an investment of Rs.70000.After 3x months from the start of the business, B leaves. At the end ofthe year, the profit share of A is 20/59th of the total profit of the business. Find the investment time period of C in this business.

a. 4

b. 9

c. 8

d. 6

e. 5

18. Questions

A jar contains 60 ml mixture of milk and water. 10% of the mixture is taken out and x ml of milk is added to the mixture. Then, the ratio of milk to water in the resultant mixture becomes 5:9. Find the value of x if the initial quantity of milk in the jar is 33.33% of the initial mixture in that jar.

a. 2

b. 5

c. 6

d. 8

e. None of these

19. Questions

6 years hence, the ratio of the age of Pavi to Devi is 15:13. The average present age of Pavi and Kavi is 23 years and the ratio the present age of Pavi to Kavi is 12:11. If the age of Saran 12 years ago isequal to 50% of the sum of the present age of Devi and Kavi, then find the present age of Saran.

a. 24 years

b. 33 years

c. 45 years

d. 30 years

e. None of these

20. Questions

Rahul sells mangoes in the local market. Due to a recent shortage in mango supply, he decided to double his selling price, even though his cost price remains the same due to a fixed-price contract. As a result, he notices that his profit has tripled. Find the original profit percentage.

a. 75%

b. 50%

c. 105%

d. 120%

e. 100%

21. Questions

The time taken by the boat to cover 50 km in upstream is equal to the time taken by the same boat to cover 60 km in downstream. The total time taken by the boat to cover 120 km in upstream and come back to the starting point in 11 hours. Find the time taken by the boat to cover 80km in upstream

a. 5

b. 4

c. 6

d. 3

e. 2

22. Questions

A alone can completehalf of the work in x days and B alone can complete 60% of the work in 27 days. A and D together can complete the work in (45/4) days. The ratio of the efficiency of B to C is 2:5. If B, C and D together complete the work in 7.5 days, then find the value of x.

a. 30

b. 10

c. 21

d. 15

e. 18

23. Questions

The area of the circle is 560 m^2 more than the area of the right angled triangle and the radius of the circle is the same as the base of the right angled triangle. Find the perimeter of the circle if the height of the right angled triangle is 8 m.

a. 132 m

b. 88 m

c. 176 m

d. 66 m

e. None of these

24. Questions

Train A crosses Train B travelling in opposite directions in 20 seconds and the speed of Train A and Train B is 54 km/hr and 72 km/hr and the length of Train B is 100 m more than that of Train A. Find the sum of the time taken by Train A to cross a bridge of length of 300 m and the time taken by Train B to cross a pole.

a. 75 seconds

b. 84 seconds

c. 60 seconds

d. 92 seconds

e. None of these

25. Questions

The library club has two sections: Fiction and Non-Fiction. In the Fiction section, the ratio of the number of boys to girls is 3:5. In the Non-Fiction section, the ratio of the number of boys to girls is 1:2. Ifthe total number of boys to girls in the library club is 7:12, then find the ratio of the number of girls in the Fiction section to Non-Fiction section in the library club.

a. 7:5

b. 4:3

c. 3:5

d. 5:1

e. 2:5

26. Questions

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

20% of 674.7 + 39.99% of 470.2 = 10.4% of 979.3+ $?^2$

a. 10

b. 15

c. 18

d. 12

e. 17

27. Questions

$469.82 + 35.94*1224.98^{1/2} - \sqrt{626} * 29.96 = ?$

a. 980

b. 828

c. 934

d. 896

e. 1010

28. Questions

$(1404.3 \div \sqrt{36}) + 36.8 * 37.4 = ?* 2 + 224.8$

a. 541

b. 640

c. 732

d. 689

e. 723

29. Questions

$3^{?} * \sqrt{168.99} = (183.78 \div 8.01) + 328.02$

a. 4

b. 3

c. 1

d. 2

e. None of these

30. Questions

25.01% of 539.89 ÷ (29.97% of 30.01) + ? = 140

a. 108

b. 130

c. 115

d. 125

e. 142

31. Questions

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

207, ?, 220, 236, 261, 297

a. 215

b. 211

c. 209

d. 212

e. 217

32. Questions

?,167, 213, 144, 236, 121

a. 190

b. 175

c. 180

d. 195

e. 170

33. Questions

81, 101, 123, 149, ?, 221

a. 175

b. 167

c. 190

d. 181

e. 171

34. Questions

90, ?, 133, 258, 294, 637

a. 194

b. 203

c. 117

d. 172

e. 120

35. Questions

?, 222, 238, 270, 334, 462

a. 209

b. 204

c. 219

d. 211

e. 214

36. Questions

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

I). $x^2-6x + 8 = 0$

II). $y^2 – 11y + 30 = 0$

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). $12x^2- 11x + 2 = 0$

II). $8y^2 + 23y -3 = 0$

a. $x > y$

b. $x \geq y$

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

d. $x < y$

e. $x \leq y$

38. Questions

I). $x^2-x – 30 = 0$

II). $y^2-16y +60 = 0$

a. $x > y$

b. $x \geq y$

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

d. $x < y$

e. $x \leq y$

39. Questions

I). $x^2 - 33x + 242 = 0$

II). $y^2 - 35y + 286 = 0$

a. $x > y$

b. $x \geq y$

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

d. $x < y$

e. $x \leq y$

40. Questions

I). $2x^2 - 25x + 75 = 0$

II). $4y^2 - 64y + 255 = 0$

a. $x > y$

b. $x \geq y$

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

d. $x < y$

e. $x \leq y$

Explanations:

1. Questions

Answer: B

From statement I,

Let the number of girls in the class be x.

The number of boys in the class = x+4

Total weight of the class = (x+4) * 42 + x * 32

So, Statement I alone is not sufficient to answer the question.

From statement II,

The total number of students in the class = y

y * 38 + 80 = (y + 1) * 40

38y + 80 = 40y + 40

y = 40/2 = 20

So, Statement II alone is sufficient to answer the question.

2. Questions

Answer: E

From statement I,

Let the radius of the hemisphere be 7x cm.

The side of the cube = 10x cm

So, Statement I alone is not sufficient to answer the question.

From statement II,

Total surface area of the cube – Total surface area of the hemisphere = 138 cm^2

So, Statement II alone is not sufficient to answer the question.

From I and II,

6 * 10x * 10x - 3 * 22/7 * 7x * 7x = 138

$600x^2 – 462x^2 = 138$

$138x^2 = 138$

$x^2 = 1$

x = 1

The side of the cube = 10 * 1 = 10 cm

The volume of the cube = $a^3 = 1000\ cm^3$

Both statements I and II together are necessary to answer the question.

3. Questions

Answer: E

Let the total amount received by Ravi, Neha, and Rahul be A, B, and C respectively.

A+B+C=50000.

Statement I:

A= (B+C)/4

So, Statement I alone is not sufficient to answer the question.

Statement II:

B=2*(A+C)/7

So, Statement II alone is not sufficient to answer the question.

From I, II

4A = B + C

A + 4A = 50000

A = 10000

7B/2 = A + C

7B/2 + B = 50000

9B = 100000

B = 100000/9

C = 50000 – 100000/9 – 10000 = 28888.88

Least amount received by A

So, both statements are necessary to answer the question.

4. Questions

Answer: D

Statement I:

Let the present age of Sam be 2x years.

And the present age of Tom =(5x – 10) years

Sum of all four members age = 2x + (5x – 10) + John's age + Ben's age = 25 * 4 = 100...(1)

The difference between the present age of Sam and John is equal to the age of Ben**.**

So, statement I alone is not sufficient to answer the questions.

Statement II:

Let the age of John 6 years hence be 5y years.

The present age of John = (5y – 6) years

The present age of Tom = 5y * 120/100 + 4 = (6y + 4) years

So, statement II alone is not sufficient to answer the questions.

From both statements I and II,

2x + (5x – 10) + John's age + Sam's age= 100

So, statements I and II together are not sufficient to answer the questions.

5. Questions

Answer: C

Statement I:

Let the maximum score be 100x.

100x * 35/100 + 30 = 100x * 40/100 – 20

35x + 30 = 40x – 20

x = 50/5 = 10

Maximum mark = 100 * 10 = 1000

Minimum pass mark = 1000 * 35/100 + 30 = 350 + 30 = 380

So, Statement I alone is sufficient to answer the question.

Statement II:

Let the maximum score be 100y.

100y * 30/100 + 150 = 100y * 45/100

30y + 150 = 45y

y = 150/15 = 10

Maximum mark = 100 * 10 = 1000

Minimum pass mark = 1000 * 30/100 + 80 = 300 + 80 = 380

So, Statement II alone is sufficient to answer the question.

Either statement I alone or statement II alone is sufficient to answer the question.

6. Questions

Answer: A

Total number of teapots and mugs manufactured on Friday=280+200=480

Total number of teapots and mugs sold on Friday =480*75/100=360

Number of teapots sold on Friday =280*5/7=200

Number of mugs sold on Friday=360-200=160

7. Questions

Answer: D

Number of mugs manufactured on Friday = 200 * (100 + 150)/100 = 200 * 250/100 = 500

x – (0.5x – 50) = 500

0.5x + 50 = 500

0.5x = 450

x = 900

Number of teapots manufactured on Saturday = 0.5 * 900 – 50 = 450 – 50 = 400

8. Questions

Answer: C

Average number of teapots and mugs manufactured on Wednesday=(220+400)/2= 620/2 = 310

Average number of mugs manufactured on Monday and Thursday=(320+180)/2= 500/2 = 250

Required sum=310+250=560

9. Questions

Answer: B

Number of teapots manufactured on Sunday=240*7/6=280

Number of mugs manufactured on Sunday=320*75/100=240

Total number of teapots and mugs manufactured on Sunday = 280 + 240 = 520

Required % = 520/400 * 100 = 130%

10. Questions

Answer: A

Let the number of mugs sold on Monday and Tuesday be 11x and 5x respectively.

Let the number of mugs unsold on Monday be 5y.

And the number of mugs unsold on Tuesday = 5y * 60/100 = 3y

11x + 5y = 320 ---(1)

5x + 3y = 160 ---(2)

From equations (1) and (2),

x = 20 and y = 20

Total number of mugs unsold on Monday and Tuesday together = (5 + 3) * 20 = 8 * 20 = 160

11. Questions

The number of people who bought plastic bowls on Tuesday = 770 * 28.56/100 = 770 * 2/7 = 220

The number of people who bought ceramic bowls on Tuesday = (770 – 220) * 4/11 = 550 * 4/11 = 200

The number of people who bought glass bowls on Tuesday = 550 – 200 = 350

The number of people who bought plastic bowls on Wednesday = 640 * 25/100 = 160

The total number of people who bought ceramic and glass bowls on Wednesday = 640 – 160 = 480

The number of people who bought plastic bowls on Friday = 560 * 37.5/100 = 560 * 3/8 = 210

The total number of people who bought ceramic and glass bowls on Friday = 560 – 210 = 350

Answer: A

The number of people who bought plastic bowls on Monday=220*17/11=340

The number of people who bought ceramic bowls on Monday=(850-340)/3*1=510/3*1 =170

Required difference=200-170=30

12. Questions

The number of people who bought plastic bowls on Tuesday = 770 * 28.56/100 = 770 * 2/7 = 220

The number of people who bought ceramic bowls on Tuesday = (770 – 220) * 4/11 = 550 * 4/11 = 200

The number of people who bought glass bowls on Tuesday = 550 – 200 = 350

The number of people who bought plastic bowls on Wednesday = 640 * 25/100 = 160

The total number of people who bought ceramic and glass bowls on Wednesday = 640 – 160 = 480

The number of people who bought plastic bowls on Friday = 560 * 37.5/100 = 560 * 3/8 = 210

The total number of people who bought ceramic and glass bowls on Friday = 560 – 210 = 350

Answer: C

The total number of people who bought bowls on Thursday = 270 * 100/30 = 900

The number of people who bought glass bowls on Thursday = (900 – 270) * 3/7 = 630 * 3/7 = 270

The number of people who bought glass bowls on Friday= 760 – (270 + 350) = 760 – 620 = 140

The number of people who bought ceramic bowls on Friday = 350 – 140 = 210

Required ratio = 210:140 = 3:2

13. Questions

The number of people who bought plastic bowls on Tuesday = 770 * 28.56/100 = 770 * 2/7 = 220

The number of people who bought ceramic bowls on Tuesday = (770 – 220) * 4/11 = 550 * 4/11 = 200

The number of people who bought glass bowls on Tuesday = 550 – 200 = 350

The number of people who bought plastic bowls on Wednesday = 640 * 25/100 = 160

The total number of people who bought ceramic and glass bowls on Wednesday = 640 – 160 = 480

The number of people who bought plastic bowls on Friday = 560 * 37.5/100 = 560 * 3/8 = 210

The total number of people who bought ceramic and glass bowls on Friday = 560 – 210 = 350

Answer: B

(x + 70) + x = 350

x = 280/2 = 140

The number of people who bought ceramic bowls on Thursday = 2 * 140 + 80 = 360

The total number of people who bought ceramic and glass bowls on Thursday = 360 * 7/4 = 630

The total number of people who bought bowls on Thursday = 630 * 100/70 = 900

(y + 670) = 770 + 900

y = 1670 – 670 = 1000

14. Questions

The number of people who bought plastic bowls on Tuesday = 770 * 28.56/100 = 770 * 2/7 = 220

The number of people who bought ceramic bowls on Tuesday = (770 – 220) * 4/11 = 550 * 4/11 = 200

The number of people who bought glass bowls on Tuesday = 550 – 200 = 350

The number of people who bought plastic bowls on Wednesday = 640 * 25/100 = 160

The total number of people who bought ceramic and glass bowls on Wednesday = 640 – 160 = 480

The number of people who bought plastic bowls on Friday = 560 * 37.5/100 = 560 * 3/8 = 210

The total number of people who bought ceramic and glass bowls on Friday = 560 – 210 = 350

Answer: D

Required percentage=(350-200)/200*100=150/2=75% more

15. Questions

The number of people who bought plastic bowls on Tuesday = 770 * 28.56/100 = 770 * 2/7 = 220

The number of people who bought ceramic bowls on Tuesday = (770 – 220) * 4/11 = 550 * 4/11 = 200

The number of people who bought glass bowls on Tuesday = 550 – 200 = 350

The number of people who bought plastic bowls on Wednesday = 640 * 25/100 = 160

The total number of people who bought ceramic and glass bowls on Wednesday = 640 – 160 = 480

The number of people who bought plastic bowls on Friday = 560 * 37.5/100 = 560 * 3/8 = 210

The total number of people who bought ceramic and glass bowls on Friday = 560 – 210 = 350

Answer: A

The number of people who bought ceramic and glass bowls on Saturday= 480 * (100 + 8.)/100 = 480/12*13 =520

The number of people who bought plastic bowls on Saturday = 360 – 210 = 150

The total number of people who bought bowls on Saturday = 520 + 150 = 670

Required difference = 850 – 670 = 180

16. Questions

Answer: B

Let the number of red balls in the box be x.

$xC_1/60C_1 = 5/12$

x = 5 * 60/12

x = 25

Let the number of yellow balls in the box be y.

$yC_1/60C_1 = 1/4$

y = 60/4

y = 15

The number of green balls in the box = 60 – 25 – 15 = 20

Required probability = $20C_2/60C_2$= 19/177

17. Questions

Answer: B

C invested their capital for (12 – x) months.

The ratio of the profitshare of A, B and C =`= (50000 * 12): [60000 * (3x)]: [70000 * (12 – x)] = 60: 18x: (84 – 7x)

60/(60 + 18x + 84 – 7x) = 20/59

3 * 59 = 144 + 11x

177 – 144 = 11x

x = 33/11 = 3

The investment period of C = 12 – 3 = 9 months

18. Questions

Answer: A

The ratio of the quantity of milk to water in the initial mixture = 33.33: (100 – 33.33) = 1:2

Quantity of milk in the initial mixture = 60×1/3 = 20 ml

Quantity of water in the initial mixture = 60 – 20 = 40 ml

The quantity of mixture taken out from the mixture = 60 * 10/100 = 6 ml

(20 – 6 * 1/3 + x)/(40 – 6 * 2/3) = 5/9

(20 – 2 + x)/(40 – 4) = 5/9

18 + x = 36 * 5/9

x = 20 – 18 = 2

19. Questions

Answer: B

Let the present age of Pavi = 12x

Present age of Kavi = 11x

12x + 11x = 23 * 2

23x = 46

x = 2

Present age of Pavi = 12 * 2 = 24 years

Present age of Kavi = 11 * 2 = 22 years

Age of Pavi after 6 years = 24 + 6 = 30 years

Age of Devi after 6 years = 30 * 13/15 = 26 years

Present age of Devi = 26 – 6 = 20 years

The sum of the present age of Devi and Kavi = 20 + 22 = 42 years

The present age of Saran = 42 * 50/100 + 12 = 21 + 12 = 33 years

20. Questions

Answer: E

Let the C.P. be x and S.P. be y.

He decides to double his selling price, even though his cost price remains the same

Let the C.P. be x and thenew S.P. be 2y.

As a result, he notices that his profit has tripled

3(y-x) = 2y – x

3y – 3x = 2y – x

y = 2x

Original profit = Rs. y – x = 2x – x = Rs. x

Original profit % = x/x ∗ 100 = 100 %

21. Questions

Answer: B

Let the time taken by the boat to cover 50 km upstream in y hours.

The ratio of the upstream to downstream speed of the boat = (50/y):(60/y) = 5:6

The downstream speed of the boat = 6x

The upstream speed of the boat = 5x

120/6x + 120/5x = 11

20 + 24 = 11x

x = 44/11 = 4

The upstream speed of the boat = 5 * 4 = 20 km/hr

Required time = 80/20 = 4 hours

22. Questions

Answer: D

B alone complete the work = 27 * 100/60 = 45 days

C alone complete the work = 45 * 2/5 = 18 days

D alone complete the work = 1/7.5 – 1/45 – 1/18 = 2/15 – 1/45 – 1/18 = (12 – 2 –5)/90 = 5/90 = 18 days

A alone complete the whole work = 4/45 – 1/18 = (4 * 2 – 5)/90 = 3/90 = 30 days

x = 30/2 = 15

23. Questions

Answer: B

Let the radius of the circle be x m.

And the base of the right angled triangle = x m

$\pi * r^2 - (1/2) * b * h = 560$

$(22/7) * x^2 - (1/2) * x * 8 = 560$

$11x^2 - 14x - 1960 = 0$

$11x^2 - 154x + 140x - 1960 = 0$

$11x(x - 14) + 140(x - 14) = 0$

$(x - 14)(11x + 140) = 0$

x = + 14, - 140/11

x = 14

The radius of the circle = 14 m

The perimeter of the circle = 2 * (22/7) * 14 = 88 m

24. Questions

Answer: C

Let the length of Train A be x m.

And the length of Train B = (x + 100) m

(x + x + 100)/[(54 + 72) * 5/18] = 20

(2x + 100)/35 = 20

2x = 600

x = 300 m

The length of Train A = 300 m

The length of Train B = 300 + 100 = 400 m

Time taken by Train A = (300 + 300)/(54 * 5/18) = 600/15 = 40 seconds

Time taken by train B = 400/(72 * 5/18) = 400/20 = 20 seconds

Required sum = 40 + 20 = 60 seconds

25. Questions

Answer: D

Let the number of boys and girls in the Fiction section be3x and 5x respectively.

Let the number of boys and girls in the Non-Fiction sectionbe y and 2yrespectively.

$$\frac{3x+y}{5x+2y}=\frac{7}{12}$$

36x + 12y = 35x + 14y

x = 2y

The ratio of the number of girls in the Fiction section to Non-Fiction section in the library club = (5x) : (2y) = (5 * 2y) : (2y) = 5:1

26. Questions

Answer: B

20% of 674.7 + 39.99% of 470.2 = 10.4% of 979.3 + $?^2$

(20/100) * 675 + (40/100) * 470 = (10/100) * 980+ $?^2$

135 + 188 = 98 + $?^2$

$?^2 = 225 = 15^2$

? = 15

27. Questions

Answer: A

? = 469.82 + 35.94 x $1224.98^{1/2}$ - √626 x 29.96

? = 470 + 36 x 35 - √625 x 30

? = 470 + 1260 - 25 x 30

? = 1730 - 750

? = 980

28. Questions

Answer: D

(1404.3 ÷ √36) + 36.8 x 37.4= ?x 2 + 224.8

(1404 ÷ 6) + 37 x 37 = (? x 2) + 225

? x 2 = 234 + 37 x 37 –225

? x 2= 234 + 1369 - 225

? x 2= 1378

? = 689

29. Questions

Answer: B

$3^{?}$*√168.99 = (183.78 ÷ 8.01) + 328.02

$3^{?}$* √169 = (184 ÷ 8) + 328

$3^{?}$* 13 = 23 + 328

$3^{?}$* 13 = 351

$3^{?} = 27 = 3^3$

? = 3

30. Questions

Answer: D

25.01% of 539.89 ÷ (29.97% of 30.01) + ? = 140

[(25/100) * 540] ÷ [(30/100) * 30]+ ? = 140

(135÷ 9) + ? = 140

? = 125

31. Questions

Answer: B

207 +2^2 = **211**

211 + 3^2 = 220

220 + 4^2 = 236

236 + 5^2 = 261

261 + 6^2 = 297

32. Questions

Answer: A

190 – 23 = 167

167 + 46 = 213

213 – 69 = 144

144 + 92 = 236

236 – 115 = 121

33. Questions

Answer: D

81 101 123 149 **181** 221

+20 +22 +26 +32 +40

+2 +4 +6 +8

34. Questions

Answer: C

$90 + 3^3 =$ **117**

$117 + 4^2 = 133$

$133 + 5^3 = 258$

$258 + 6^2 = 294$

$294 + 7^3 = 637$

35. Questions

Answer: E

214 + 8 = 222

222 + 16 = 238

238 + 32 = 270

270 + 64 = 334

334 + 128 = 462

36. Questions

Answer: D

$x^2 - 6x + 8 = 0$

x^2- 4x – 2x +8 = 0

x (x - 4) – 2(x -4) = 0

x = + 2, +4

y^2 – 11y + 30 = 0

y^2 – 6y – 5y + 30 = 0

y (y – 6) – 5(y – 6) = 0

y = + 5, + 6

Hence, x < y

37. Questions

Answer: A

$12x^2$- 11x + 2 = 0

$12x^2$-3x -8x + 2 = 0

3x (4x -1) -2(4x -1) = 0

(4x - 1)(3x - 2) = 0

x = + 1/4, + 2/3

$8y^2$ + 23y -3 = 0

$8y^2$ + 24y – y -3 = 0

8y (y + 3) - (y +3) = 0

y = - 3, + 1/8

Hence, x > y

38. Questions

Answer: E

x^2- x – 30 = 0

x^2-6x +5x – 30 = 0

x (x -6) +5(x -6) = 0

x = - 5, + 6

y^2 - 16y + 60 = 0

y^2-10y – 6y +60 = 0

$y (y -10) - 6(y -10) = 0$

$y = + 6, + 10$

Hence, $x \leq y$

39. Questions

Answer: C

$x^2 – 33x + 242 = 0$

$x^2 – 22x – 11x + 242 = 0$

$x (x – 22) – 11(x – 22) = 0$

$x = + 11, + 22$

$y^2 – 35y + 286 = 0$

$y^2 – 22y – 13y + 286 = 0$

$y (y – 22) – 13(y – 22) = 0$

$y = + 13, + 22$

The relationship can't be determined

40. Questions

Answer: E

$2x^2 - 25x + 75 = 0$

$2x^2-10x -15x +75 = 0$

$2x (x -5) -15(x -5) = 0$

$x = +5, + 7.5$

$4y^2 - 64y + 255 = 0$

$4y^2-30y -34y + 255 = 0$

$2y (2y -15) -17(2y -15) = 0$

$y = +7.5, +8.5$

Hence, $x \leq y$