



RBI ASSISTANT PRELIMS QUANTITATIVE APTITUDE



INSTRUCTIONS

- This RBI Assistant Pre Exam practice set of Quantitative Aptitude (Qs. 1-35)
- All the questions are compulsory.
- Each question has five options, of which only one is correct. The candidates are advised to read all the options thoroughly.

Quantitative Aptitude

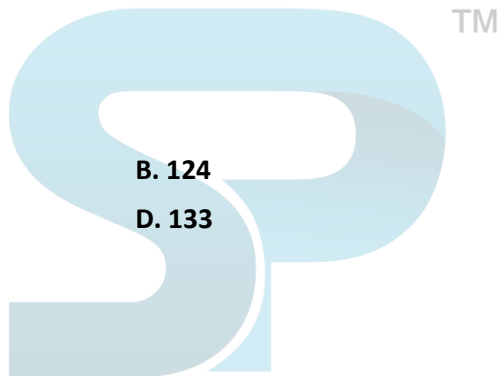
Direction (1-5) : What will come in place of the question mark (?) in the following number series?

1. 17, 12, 29, 92, 373, ?.

- A. 1966
B. 1870
C. 1654
D. 1442
E. None of these

2. 114, 115, 107, ?, 134, 70, 195

- A. 143
B. 124
C. 134
D. 133
E. None of these



3. 12, 22, 69, 272, 1365

- A. 262
B. 22
C. 12
D. 69
E. None of these

4. 15, 21, 39, 77, 143, ?

- A. 243
B. 250
C. 253
D. 245
E. None of these



5. 5 8 16 31 55 ?

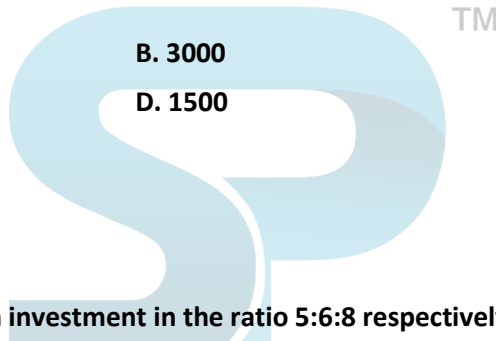
- A. 72
- B. 96
- C. 90
- D. 76
- E. None of these

6. A man can row a distance of 30 km downstream and return in a total of 8 hours. If the speed of the boat in still water is four times the speed of the current, find the speed of the current (in kmph).

- A. 8
- B. 3
- C. 7
- D. 2.
- E. None of these

7. A garden is 24 m long and 14 m wide. There is a path 1 m wide outside the garden along its sides. If the path is to be constructed with square marble tiles 20 cm a 20 cm, then find the number of tiles required to cover the path:

- A. 1700
- B. 3000
- C. 2000
- D. 1500
- E. None of these



8. P, Q and R started a business with investment in the ratio 5:6:8 respectively. After 1 yr, R withdrew 50% of his capital and p increased his capital by 60% of his investment. After 2 yr, in what ratio should the earned profit be distributed among P, Q and R respectively?

- A. 12:13:13
- B. 14:13:12
- C. 13 : 12 : 12
- D. Cannot be determined
- E. None of the above

9. Mr Ram spends 20% of his monthly income on household expenditure. Out of the remaining 25% he spends on children's education, 15% on transport, 15% on medicine and 10% on entertainment. He is left with Rs. 5600 after incurring all these expenditures. What is his monthly income?

- A. Rs. 20000
- B. Rs. 25000
- C. Rs. 35000
- D. Rs.28400
- E. None of these



10. A box contains 2 blue marker, 4 red marker, 5 green marker and 1 yellow marker. If four marker are picked at random, what is probability that none is green?
- A. $\frac{7}{99}$ B. $\frac{13}{99}$
C. $\frac{1}{12}$ D. $\frac{11}{12}$
E. None of these

Direction: In the following question, two equations are given. You have to solve these equations and give the answer:

11. $6x^2 + 31x + 33$
 $y^2 - 32y + 247$
- A. $X > y$ B. $x \geq y$
C. $y > x$ D. $y \geq x$
E. $X = y$ or relationship cannot be establish

Direction: In the following question, two equations are given. You have to solve these equations and give the answer:

12. $3x^2 + 13x + 14 = 0$
 $8y^2 + 26y + 21 = 0$
- A. $X > y$ B. $x \geq y$
C. $y > x$ D. $y \geq x$
E. $x = y$ or relationship cannot be establish

Direction: In the following question, there are two equations. Solve the equations and answer accordingly:

13. $2x^2 - 19x + 44 = 0$
 $2y^2 - 21y + 52 = 0$
- A. $x > y$ B. x
C. $x \geq y$ D. $x \leq y$
E. $x = y$ OR No relation can be established (CND)

Direction: In the following question, there are two equations. Solve the equations and answer accordingly.



14. $12x^2 - 40x - 32 = 0$

$2y^2 + 21y + 54 = 0$

- A. $x > y$
- B. $x < y$
- C. $x \geq y$
- D. $x \leq y$
- E. $x = y$ or relationship cannot be determined

Direction: Two equations (I) and (II) are given in each question. On the basis of these equations you have to decide the relation between 'x' and 'y' and give answer.

15. $4x + 3y = (1600)^{1/2}$

$6x - 5y = (484)^{1/2}$

- A. $x > y$
- B. $x \geq y$
- C. $y > x$
- D. $y \geq x$
- E. $x = y$ or relationship cannot be establish

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Direction: A question along with two statements, is given below. You have to decide whether the data provided in the two statements is sufficient to answer the question or not and mark your answer accordingly.

16. The ages of Pradumn and Gunit are in the ratio of 7: 5. What is the age of Pradumn?

I. The ages of Pradumn and Nandini are in the ratio of 4:3.

II. After 7 years the ratio of Pradumn's and Aviral's ages will be 4: 3.

- A. if the statement I alone is sufficient to answer the question, but the statement II alone is not sufficient.
- B. if the statement II alone is sufficient to answer the question, but the statement I alone is not sufficient.
- C. if both statements I and II together are needed to answer the question.
- D. either the statement I alone or statement II alone is sufficient to answer the question.
- E. Data is insufficient.

Direction: A question along with two statements, is given below. You have to decide whether the data provided in the two statements is sufficient to answer the question or not and mark your answer accordingly.

17. Train 'A' running at a certain speed crosses another train 'B' running at a certain speed in the opposite direction in 24 seconds. What is the length of train 'B'?



- I. The length of both the trains together is 450 meters.
- II. Train 'A' is slower than train 'B'.
- A. The data in Statement I alone are sufficient to answer the question, while the data in statements II alone are not sufficient to answer the question.
- B. The data in statement II alone are sufficient to answer the questions, while the data in statement I alone are not sufficient to answer the question.
- C. The data either in statement I alone or in statement II alone are sufficient to answer the question.
- D. The data even in both the statements I and II together is not sufficient to answer the question.
- E. The data in both the statements I and II together are necessary to answer the question.

Direction: A question along with two statements, is given below. You have to decide whether the data provided in the two statements is sufficient to answer the question or not and mark your answer accordingly.

18. What percent of families in the U.P have an annual expenses of over 1,50,000 and own a Bungalow? The number of families is 1,50,000.

- I. 28% of the families in U.P have an expenses of 1,50,000. TM
- II. 40% of the families in U.P have an annual expenses over 1,50,000 and own a Bungalow.
- A. Statements I is sufficient to answer the question, but statement II by itself is not sufficient to answer the question.
- B. Statements II by itself is sufficient to answer the question, but statement I alone is not sufficient to answer the question.
- C. Statements either I or II is sufficient to answer the question.
- D. Both the statements I and II taken together are not sufficient to answer the question. E. Both the statements I and II taken together are sufficient to answer the question.

Direction: A question along with two statements, is given below. You have to decide whether the data provided in the two statements is sufficient to answer the question or not and mark your answer accordingly.

19. What is the age of the son?

- 1) 4 years ago the average age of the family including father, mother and son is 27 year
- 2) 5 years hence the average age of the father and mother will be 40
- A. if the data provided in statement i is sufficient while the data provided in statement 2 is not sufficient
- B. if the data provided in statement 2 is sufficient while the data provided in statement 1 is not sufficient
- C. if the data provided in either of the statements alone is sufficient to answer the question
- D. if the data provided in both of the statements together is sufficient to answer the question
- E. if the data provided in both of the statements together are not sufficient to answer the question



Direction: A question along with two statements, is given below. You have to decide whether the data provided in the two statements is sufficient to answer the question or not and mark your answer accordingly.

20. A 540m-long plot of rectangular land is to be fenced. Find the cost of fencing per square metre.

I. Breadth of the rectangular plot is 60 m.

II. Length of the rectangular plot is 120 m.

A. If the data in statement I alone are sufficient to answer the question, while the data in statement II alone are not sufficient to answer the question.

B. If the data in statement II alone are sufficient to answer the question, while the data in statement I alone are not sufficient to answer the question.

C. If the data either in statement I alone or in statement II alone are sufficient to answer the question.

D. If the data even in both the statements I and II together are not sufficient to answer the question.

E. If the data in both the statements I and II together are necessary to answer the question.

21. Two taps X and Y can fill a Tank in 30 and 60 minutes respectively. There is a third exhaust tap Z at the bottom of tank. If all taps are opened at the same time, the Tank will be full in 50 minutes. In what time can exhaust tap Z empty the cistern when full?

A. 33.33 Min

B. 22.34 Min

C. 12 Min

D. 18 Min

E. 21 Min

22. A merchant sells his two mobiles - one at 15% loss and another at 10% profit. If the cost prices of the two mobiles are in the ratio of 1:2, what is his percent profit or loss?

A. 1.66% profit

B. 2.33% loss

C. 1.33% profit

D. 1.25%loss

E. None of these

23. A and B together can complete a work in 10 days while A is 50% more efficient than B then find in how many days the work will be complete if they work on alternative days starting with A?

A. 15

B. 20

C. 22

D. 18

E. 19



24. Average weight of 20 girls in a class is 25 kg, when the age of a teacher is included the average weight increased by 2 then find out the weight of the teacher.

- A. 50 kg
- B. 66 kg
- C. 67 kg
- D. 47 kg
- E. None of these

25. If A man borrowed same amount from Babu as Babu from Arun at the same rate of interest for 3 Years at simple interest while Babu borrowed at compound interest compounded annually at same rate and time period and the difference Between their interest is Rs. 992.25 then find the Rate pcpa if Aman borrowed Rs. 14,000.

- A. 17%
- B. 15%
- C. 6%
- D. 19%
- E. None of these

26. Out of 5 women and 4 men a committee of three members is to be formed in such a way that at least one member is a women. In how many different ways can it be done?

- A. 96
- B. 76
- C. 84
- D. 80
- E. None of these

27. 3 men and 7 women can complete a piece of work in 12 days. 7 men and 3 women can complete the same work in 8 days. In how many days can 3 women complete the work alone?

- A. 36
- B. 64
- C. 100
- D. 84
- E. 56

28. A train reaches on a destination in time with an average speed of 40 Kmph. If it goes with an average speed of 35 kmph it is late by 15 minutes. The length of the total journey is -

- A. 70 km
- B. 56Km
- C. 23 km
- D. 78 km
- E. 85 Km



29. 80 litres mixture of alcohol and water contain 20% water. How much water must be added to the above mixture to make water 23 % of the resulting mixture?

- A. 7.5 litres
- B. 5 litres
- C. 8 litres
- D. 4 litres
- E. None of these

30. Two pipes X and Y can fill a cistern in 24 minutes and 32 minutes respectively. If both the pipes are opened together, then after how much time (in minutes) should Y be closed so that the tank is full in 18 minutes?

- A. 10
- B. 8
- C. 6
- D. 5
- E. 4

31. The ratio between the ages of a father and a son at present is 5 : 2, respectively. Four years hence, the ratio between the ages of the son and his mother will be 1 : 2, respectively. What is the ratio between the present ages of the father and the mother respectively?

- A. 7:9
- B. 3:4
- C. Cannot be determined
- D. 4:3
- E. None of these

32. The daily work of 2 men is equal to that of 3 women or that of 4 youngsters. By employing 14 men, 12 women and 12 youngsters a certain work can be finished in 24 days. If it is required to finish it in 14 days and as an additional labour, only men are available, how many of them will be required?

- A. 20 men
- B. 18 men
- C. 48 men
- D. 28 men
- E. None of these

33. The breadth of a rectangular floor is half of its length. If Rs 972 is required to paint the floor at Rs. 6 per square meter then what is the area of the circle whose perimeter is 22 times the length of the rectangular floor?

- A. 12474
- B. 16224
- C. 14634
- D. 15724
- E. None of these



34. In a school 70% of the students are boys and rest are girls. Moreover, 20% of the boys and 10% of the girls are getting a fee exemption. If the number of those getting a fee exemption is 1700, find the total number of students getting 75% concession if it is given that 40% of those not getting a fee exemption are eligible to get 75% concession?

- A. 6000
B. 3320
C. 2000
D. 1500
E. 7000

35. Two trains A and B leave stations P and Q simultaneously and travel towards Q and P respectively on the same route. After meeting en route, A takes one hour to reach Q and B takes 4 hours to reach P. How long did A take to cover the entire distance?

- A. 6 hours
B. 4 hours
C. 2 hours
D. 3 hours
E. none of these

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1. **Ans. B.**

$$7 \times 1 + 5 = 12$$

$$12 \times 2 + 5 = 29$$

$$29 \times 3 + 5 = 92$$

$$92 \times 4 + 5 = 373$$

$$373 \times 5 + 5 = 1870$$

2. **Ans. C.**

$$+1^3, -2^3, +3^3, -4^3, +5^3$$

3. **Ans. A.**

$$*2-2,$$

$$*3+3,$$

$$*4-4,$$

$$*5+5$$



4. Ans. D.

The series is 15+6, 21+18, 39+38, 77+66, 143+102.

The inner series is 6+12, 18+20, 38+28, 66+36.

Again the inner series is 12+8, 20+8, 28+8.

5. Ans. C.

$$8 = 5 + 2^2 - 1,$$

$$16 = 8 + 3^2 - 1,$$

$$31 = 16 + 4^2 - 1,$$

$$55 = 31 + 5^2 - 1,$$

$$\text{Next number} = 55 + 6^2 - 1 = 90$$

6. Ans. D.

$$\frac{30}{v+x} - \frac{30}{v-x} = 8$$

Where v and x are speed of the boat and water current respectively. , $V = 4x$

$$\frac{30}{5x+3x} = 8, \quad \frac{6}{x} = 8$$

$$X = 2 \text{ kmph}$$

7. Ans. C.

8. Ans. C.

Let the investments of P, Q and R be 5x, 6x and 8x respectively

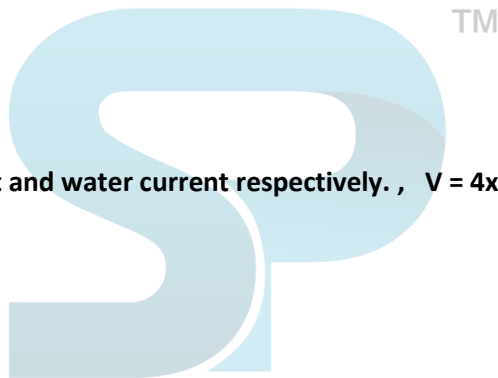
Total equivalent capital of P = $5x \times 12 + 8x \times 12 = 60x + 96x = \text{Rs. } 156x$

Total equivalent capital of Q = $6x \times 24 = 144x$

Total equivalent capital of R = $8x \times 12 + 4x \times 12 = 96x + 48x = \text{Rs. } 144x$

Required earned profit ratio = $156x : 144x : 144x$

$$= 13 : 12 : 12$$





9. **Ans. A.**

Let Mr Ram monthly income be Rs. 100

Then, money spent on household expenditure = $100 \times 20/100 = \text{Rs. } 20$

Remaining amount = $100 - 20 = \text{Rs. } 80$

Money spent on children's education = $80 \times 25/100 = \text{Rs. } 20$

Money spent on transport = $80 \times 15/100 = \text{Rs. } 12$

Money spent on medicine = $80 \times 15/100 = \text{Rs. } 12$

Money spent on entertainment = $80 \times 10/100 = \text{Rs. } 8$

Last remaining amount = $100 - (20 + 20 + 12 + 12 + 8) = 100 - 72 = \text{Rs. } 28$

Now, Rs. 28 is left, when total income is Rs. 100 Rs. 1 is left, when total income = $100/28$

Rs. 9800 is left, when total income = $100/28 \times 5600 = \text{Rs. } 20000$

10. **Ans. A.**

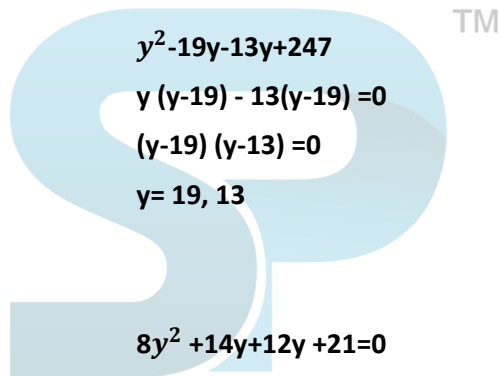
11. **Ans. C.**

$$6x^2 + 9x + 22x + 33 = 0$$

$$= 3x(2x + 3) + 11(2x + 3) = 0$$

$$(2x+3)(3x+11)=0$$

$$x = -11/3, -3/2$$



$$y^2 - 19y - 13y + 247$$

$$y(y-19) - 13(y-19) = 0$$

$$(y-19)(y-13) = 0$$

$$y = 19, 13$$

12. **Ans. C.**

$$3x^2 + 6x + 7x + 14 = 0$$

$$3x(x + 2) + 7(x + 2) = 0$$

$$(x+2)(3x+7)=0$$

$$x = -2, -7/3$$

$$8y^2 + 14y + 12y + 21 = 0$$

$$2y(4y+7) + 3(4y+7) = 0$$

$$(2y+3)(4y+7)=0$$

$$y = -3/2, -7/4$$

13. **Ans. E.**

$$2x^2 - 19x + 44 = 0$$

$$2x^2 - 11x - 8x + 44 = 0$$

$$x(2x-11) - 4(2x-11) = 0$$

$$(x-4)(2x-11) = 0$$

$$x-4=0 \text{ or } 2x-11=0$$

$$x-4=0 \text{ or } 2x=11$$

$$x=4 \text{ or } x= 11/2 \text{ } x=4 \text{ or } x=5.5$$



$$2y^2 - 21y + 52 = 0$$

$$2y^2 - 8y - 13y + 52 = 0$$

$$2y(y-4) - 13(y-4) = 0$$

$$(y-4)(2y-13) = 0$$

$$y-4=0 \text{ or } 2y-13=0$$

$$y=4 \text{ or } 2y=13 \quad y=4 \text{ or}$$

$$y = 13/2 \quad y=4 \text{ or } y=6.5$$

Relationship cannot be established

14. **Ans. A.**

$$x = -2/3, 4 \quad y = -6, -9/2$$

Put all values on number line and analyze the relationship

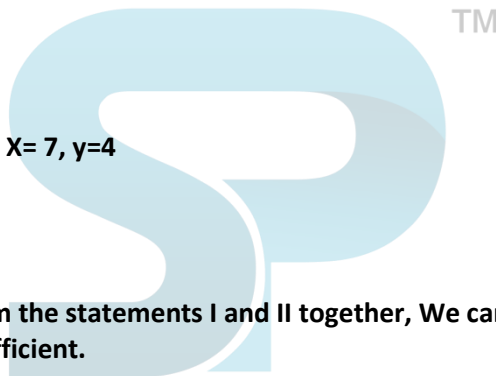
-6.....-9/2.....-2/3.....4

15. **Ans. A.**

$$4x + 3y = 40$$

$$6x - 5y = 22$$

By solving the two equations we get $X=7, y=4$



16. **Ans. E.**

We cannot get the answer even from the statements I and II together, We cannot form a solvable equation with the of I and II, as data is not sufficient.

17. **Ans. D.**

Given that, Train 'A' running at a certain speed crosses another train 'B' running at a certain in the opposite direction in 24 seconds. A train crosses another train running in opposite dire when the whole length of the train crosses the other train.

From first statement,

Length of both train is given but 5/19 e = information about length of Train A or speed trains, we cannot calculate length of train B. Thus, the data in statement I alone are not sufficient to answer the question.

From second statement,

In this statement, there is no information about speed of trains. So, just the knowledge that, train 'A' is slower than train 'B' is not enough to reach at the solution.

Combining both statements, Even on combining both statements, we don't have enough data to calculate the speed of trains.



18. **Ans. D.**

19. **Ans. D.**

From 1 we can get the sum of present age of the family members From 2 we can get sum of ages of the couple so answer is (D)

20. **Ans. D.**

Cost of fencing per square meter is not given. So, even combined both the statements together, total cost of fencing can't be determined.

21. **Ans. A.**

Let tap C will empty the tank in 't' minutes

Here, X = 30, Y = 60 and Total time to fill tank = 50 minutes

C can empty the full tank in = 50 Minutes = $(1/30 + 1/60 - 1/t)$

= $1/50$ $1/30 + 1/60 - 1/50 = 1/t$ T = $100/3$ minutes = 33.33 minutes

22. **Ans. A.**

Given that CPs are in the ratio 1:2

Therefore let the CPs be Rs.100 & Rs. 200 respectively,

1st SP = 100-15% of 100 = Rs. 85.

2nd SP = 200 + 10% of 200 = Rs. 220.

Total CP = Rs. 300. Total SP = 85 + 220 = Rs.305.

Profit = Rs. 305-300 = Rs.5.

Profit percent = $5 \times 100 / 300 = 1.66\%$ profit.



23. **Ans. B.**

24. **Ans.C**

25. **Ans.B**

26. **Ans.D**

27. **Ans.B**

28. **Ans.A**



29. **Ans.D**

30. **Ans.B**

31. **Ans.A**

suppose the ages of father and son are $5x$ yr and $2x$ yr

After four years, the age of son = $(2x + 4)$ yr

After four years, the age of mother = $(4x + 8)$ yr

So, the present age of mother = $(4x + 4)$ yr

Ratio of the age of father and mother = $5x : 4x + 4$

Since, data is insufficient, so cannot be determined.

32. **Ans. A.**

let, men = M, women = W, Youngster = Y

Then $2M = 3W = 4Y$

$W = \frac{2}{3} M$ and $Y = \frac{1}{2} M$

Given $14M + 12W + 12Y$

$14 + \frac{2}{3} \times 12 + \frac{1}{2} \times 12$

28 men

$28 \times 24 = m \times 14 = m = 48$

Therefore, additional labour = $48 - 28 = 20$



33. **Ans. A.**

Let the length be X

Then breadth be $X/2$

Now, $X \times X/2 = 972/6 = 162$

$X^2 = 162 \times 2$ $X = 18$ Again, perimeter of circle = 18×22

So, $2\pi r = 18 \times 22$

$2 \times (\frac{22}{7}) \times r = 18 \times 22$

$r = 63$ Area of circle = $\pi r^2 = \frac{22}{7} \times (63 \times 63) = 12474$ sq m

34. **Ans. B.**

Let the total students be x So,

$\frac{20}{100} \times \frac{70x}{100} + \frac{10}{100} \times \frac{30x}{100} = 1700$

$\frac{14x}{100} + \frac{3x}{100} = 1700$

$17x = 170000$



$x = 10000$

Number of students not getting fee exemption = $10000 - 1700 = 8300$

Number of student getting 75% exemption = $40 * 8300 / 100 = 3320$

35. **Ans. D.**

A takes 1 hour after meeting and B takes 4 hours after meeting.

Hence Time traveled before meeting = $v1.4 = 2$ hours

Time taken by A = $2 + 1 = 3$ hours

