

Memory Based SBI Clerk Mains - Quant.

Time Allowed: 45 Minutes

Maximum Marks: 50

1. 7 151 223 259 277 ?

- (a) 268 (b) 295  
(c) 286 (d) 259  
(e) None of these

2. 27 30.2 23.8 33.4 20.6 ?

- (a) 30.2 (b) 36.6  
(c) 39.8 (d) 17.4  
(e) None of these

3. 5 4 6 15 56 ?

- (a) 280 (b) 275  
(c) 270 (d) 265  
(e) 285

4. 7 10 21 52 121 ?

- (a) 256 (b) 270  
(c) 254 (d) 252  
(e) None of these

5. 5 3 4 ? 38

- (a) 8.5 (b) 6  
(c) 7.5 (d) 8  
(e) None of these

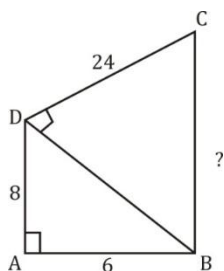
6. Distance between A and B is 24 km a boat travels from A to B and comes back in 6 hour. The speed of boat in still water is thrice the speed of stream. Find the speed of boat.

- (a) 3 km/hr (b) 11 km/hr  
(c) 7 km/hr (d) 12 km/hr  
(e) 9 km/hr

7. A rectangular grassy plot is 112 m by 78 m. It has a gravel path 2.5 m wide all round it on the inside. Find the area of the path and the cost of constructing it at Rs. 2 per square metre?

- (a) Rs. 1500 (b) Rs. 1600  
(c) Rs. 1750 (d) Rs. 1850  
(e) None of these

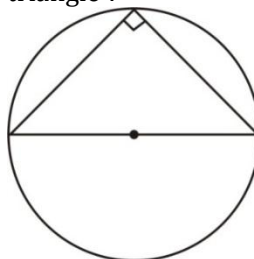
8. Find length of BC ?



- (a) 24 (b) 26  
(c) 22 (d) 28

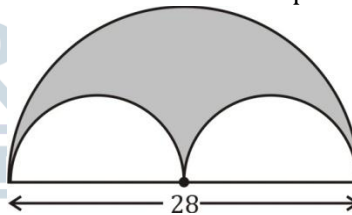
(e) 27

9. Circumference of circle is 44 meter. Find the area of triangle ?



- (a) 49 (b)  $49\sqrt{2}$   
(c)  $98\sqrt{2}$  (d) 98  
(e) None of these

10. Find the area of shaded portion ?



- (a) 154 (b) 196  
(c) 156 (d) 198  
(e) None of these

11. A bag contains 4 red, 5 yellow and 6 green balls. 3 balls are drawn randomly.

What is the probability that the balls drawn contain no yellow ball?

- (a)  $\frac{24}{91}$  (b)  $\frac{33}{91}$   
(c)  $\frac{12}{65}$  (d) Data inadequate  
(e) None of these

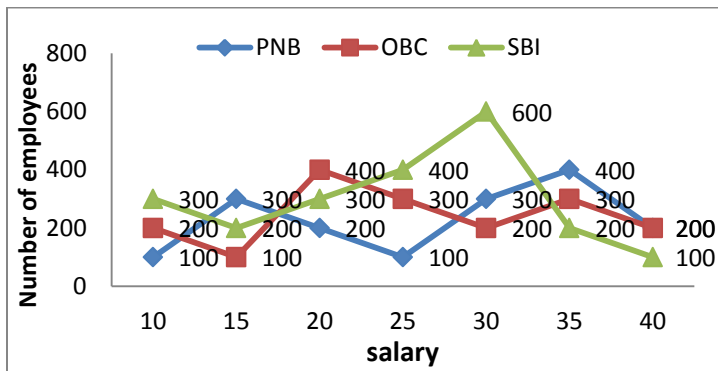
**Directions (12 - 16) :** In each of these questions, two equations (I) and (II) are given. You have to solve both the equations and give answer.

- (a) if  $x > y$  (b) if  $x \geq y$   
(c) if  $x < y$  (d) if  $x \leq y$   
(e) if  $x = y$  or no relation can be established between 'x' and y.

12. I.  $4x + 7y = 42$  II.  $3x - 11y = -1$   
13. I.  $9x^2 - 29x + 22 = 0$  II.  $y^2 - 7y + 12 = 0$   
14. I.  $3x^2 - 4x - 32 = 0$  II.  $2y^2 - 17y + 36 = 0$   
15. I.  $3x^2 - 19x - 14 = 0$  II.  $2y^2 + 5y + 3 = 0$   
16. I.  $x^2 + 14x + 49 = 0$  II.  $y^2 + 9y = 0$

**Directions (17-21):** Read the following graph carefully and answer the questions given below.

Number of employees and their salaries (in thousands per month) in different banks.



17. What is the average salary of employees of PNB?  
 (a) Rs. 26125 (b) Rs. 24525  
 (c) Rs. 23186 (d) Rs. 25625  
 (e) None of these
18. Which bank has the lowest number of employees?  
 (a) SBI (b) PNB  
 (c) OBC (d) PNB and OBC  
 (e) None of these

**Directions (Q. 22-26): Study the table carefully to answer the questions that follow.**

**Number of animals in grasslands of four different countries in five different years**

Year	Country											
	South Africa			China			Sri Lanka			England		
	Tiger	Lion	Bear	Tiger	Lion	Bear	Tiger	Lion	Bear	Tiger	Lion	Bear
1990	145	156	250	320	346	436	280	468	255	423	342	234
1995	134	165	354	445	256	542	354	354	343	368	136	345
2000	120	135	324	583	325	454	433	345	545	354	267	456
2005	110	184	285	466	475	322	343	324	546	562	235	567
2010	160	224	264	411	535	534	535	532	453	349	345	324

22. What is the average of the number of tigers in the grassland of Sri Lanka over all the years together?  
 (a) 386 (b) 389  
 (c) 369 (d) 276  
 (e) None of these
23. What is the difference between the total number of lions and bears in the grassland of England in the year 2005 and the number of tigers in the grassland of South Africa in the year 1995?  
 (a) 597 (b) 558  
 (c) 677 (d) 668  
 (e) None of these
24. The total number of animals together in the grassland of China in the year 1990 is approximately what per cent of the total number of bears in the grassland of Sri Lanka over all the years together?  
 (a) 44% (b) 56%  
 (c) 41% (d) 47%  
 (e) 51%
25. If 35 per cent of the total number of animals in the grassland of China in the year 2010 died due to an

19. What is the respective ratio between the total salary of Rs. 15000 salaried employees to the total salary of Rs. 35000 salaried employees?  
 (a) 1 : 3 (b) 2 : 3  
 (c) 1 : 1 (d) 4 : 1  
 (e) None of these
20. The number of employees of OBC drawing salary Rs. 20000 is **approximately** what percent of the number of employees of SBI drawing salary Rs. 30000 month?  
 (a) 75% (b)  $33\frac{1}{2}$   
 (c)  $16\frac{2}{3}$  (d) 80%  
 (e)  $66\frac{2}{3}$ %
21. Total salary of Rs. 20000 salaried employees is what percent of the total salary of 25000 salaried employees?  
 (a) 92 (b) 90  
 (c) 94 (d) 86  
 (e) None of these

epidemic, how many animals remained in the grassland of China in the year 2010?

- (a) 976 (b) 952  
 (c) 986 (d) 962  
 (e) None of these
26. What is three-fourths of the total number of lions in the grasslands of all the four countries in the year 2000?  
 (a) 848 (b) 868  
 (c) 804 (d) 824  
 (e) None of these
27. The salaries of A, B and C are in the ratio 1 : 3 : 4. If the salaries are increased by 5%, 10% and 15% respectively, then the increased salaries will be in the ratio  
 (a) 20 : 66 : 95 (b) 21 : 66 : 95  
 (c) 21 : 66 : 92 (d) 19 : 66 : 92  
 (e) None of these
28. Two pipes A and B can separately fill a cistern in 60 minutes and 75 minutes respectively. There is a third pipe in the bottom of the cistern to empty it. If all the three pipes are simultaneously opened, then the cistern is full in 50 minutes. In how much time,

the third pipe alone can empty the cistern?

- (a) 90minutes (b) 100 minutes  
(c) 110 minutes (d) 120 minutes  
(e) None of these

**Directions (29-33): Each question below is followed by two statements I and II. You are to determine whether the data given in the statement is sufficient to answer the question. You should use the data and your knowledge of Mathematics to choose between the possible answers. Give answer—**

- (a) If the question can be answered by using statement I alone but cannot be answered by statement II alone.  
(b) If the question can be answered by using statement II alone but cannot be answered by statement I alone.  
(c) If both statements I and II together are required to answer the question.  
(d) If the answer can be found by using any of the two statements alone.  
(e) If both the statements together are not sufficient to answer the question.
29. What will be the cost of painting a rectangular wall?  
I. Cost of painting is Rs 10 per square meter.  
II. Perimeter of wall is 60 m.
30. Age of A is one third of age of B. What are their ages?  
I. After 10 years the ratio between age of A and B will 3 : 7.  
II. 10 years ago the ratio of their ages was 1 : 5.
31. What is the length of a train?  
I. It takes 8 seconds to cross a man.  
II. It takes 20 seconds to cross a 50-meter-long bridge with the same speed.
32. What is sum of two numbers a and b?  
I.  $a - z = 20$   
II.  $z - b = 20$
33. What is the age of A and B?  
I. Age of A is 80% of the age of C.  
II. Age of B is 60% of the age of C
34. The ages of Ranjana and Rakhi are in the ratio of 15 : 17 respectively. After 6 years, the ratio of their ages will be 9 : 10. What will be the age of Ranjana after 6 years?  
(a) 40 years (b) 30 years  
(c) 34 years (d) 36 years  
(e) None of these
35. The simple interest accrued on an amount of Rs. 20000 at the end of 3 years is Rs. 7200. What would be the compound interest accrued on the same amount at the same rate in the same period?  
(a) Rs. 8342.36 (b) Rs. 8098.56  
(c) Rs. 8246.16 (d) Rs. 8112.86  
(e) None of these

36. A pipe can empty a tank in 40 minutes. A second pipe with diameter twice much as that of the first is also attached with the tank to empty it. The two together can empty the tank in ;

- (a) 8 minutes (b)  $13\frac{1}{3}$  minutes  
(c) 30 minutes (d) 38 minutes  
(e) None of these

37. A shopkeeper purchased a TV for Rs. 2,000 and a radio for Rs. 750. He sells the TV at a profit of 20% and the radio at a loss of 5%. The total loss or gain is

- (a) Gain Rs. 352.50 (b) Gain Rs. 362.50  
(c) Loss Rs. 332 (d) Loss Rs. 300  
(e) None of these

38. 8 men and 4 women together can complete a piece of work in 6 days. Work done by a man in one day is double the work done by a woman in one day. If 8 men and 4 women started working and after 2 days, 4 men left and 4 new women joined. In how many more days will the work be completed?

- (a) 5 days (b) 8 days  
(c) 6 days (d) 4 days  
(e) 9 days

39. A, B and C started a business with their investments in the ratio 1 : 2 : 4. After 6 month A invested the half amount more as before and B invested same the amount as before while C withdrew  $\frac{1}{4}$  th of his investment. Find the ratio of their profits at the end of the year.

- (a) 5 : 12 : 13 (b) 5 : 11 : 14  
(c) 5 : 12 : 14 (d) 5 : 12 : 10  
(e) None of these

40. Richa's science test consist of 85 questions from three sections- i.e. A, B and C. 10 questions from section A, 30 questions from section B and 45 question from section C. Although, she answered 70% of section A, 50% of section B and 60% of section C correctly. She did not pass the test because she got less than 60% of the total marks. How many more questions she would have to answer correctly to earn 60% of the marks which is passing grade?

- (a) 4 (b) 2  
(c) 5 (d) 6  
(e) 8

41. The average age of 28 men is 27 years. If the age of one more man is added to it, the average increases by 1 year. What is the age of the new man?

- (a) 28 years (b) 42 years  
(c) 56 years (d) 54 years  
(e) None of these

42. Ms Deepti Jain invests 11% of her monthly salary, i.e. , Rs. 5236 in Fixed Deposits. Later she invests 19% of her monthly salary on Life Insurance Policies, also she invests another 7% of her monthly

salary on Mutual Funds. What is the total annual amount invested by Ms Deepti Jain?

- (a) Rs. 211344 (b) Rs. 17612  
(c) Rs. 105672 (d) Rs. 35224  
(e) None of these

43. A committee of 3 members is to be selected out of 3 men and 2 women. What is the probability that the committee has atleast one woman?

- (a)  $\frac{1}{10}$  (b)  $\frac{9}{20}$   
(c)  $\frac{9}{10}$  (d)  $\frac{1}{20}$   
(e) None of these

44. A and B together can complete a piece of work in 12 days. A alone can complete in 20 days. If B does the work only half a day daily, then in how many days A and B together will complete the work?

- (a) 10 days (b) 20 days  
(c) 11 days (d) 15 days  
(e) None of these

45. A train is moving at a speed at a speed of 132 km/hour. If the length of the train is 110 metres, how long will it take to cross a railway platform 165 metres long?

- (a) 5 second (b) 7.5 second  
(c) 10 second (d) 15 second

46. 15 litres of a mixture contains alcohol and water in the ratio 1 : 4. If 3 litres of water is mixed in it, the percentage of alcohol in the new mixture will be

- (a) 15 (b)  $16\frac{2}{3}$   
(c) 17 (d)  $18\frac{1}{2}$   
(e) None of these

47. Two pipes A and B can fill a cistern in 30 minutes and 45 minutes resp. Both pipes are opened. The cistern will be filled in just 20 min, if the pipe B is turned off after

- (a) 5 min (b) 9 min  
(c) 10 min (d) 15 min  
(e) None of these

48. 2 men and 3 boys can do a piece of work in 10 days while 3 men and 2 boys can do the same piece of work in 8 days. In how many days can 2 men and 1 boy do the same piece of work?

- (a)  $12\frac{1}{2}$  days (b) 24 days  
(c) 32 days (d)  $11\frac{1}{2}$  days  
(e) None of these

49. A man sets out on cycle from Delhi to Faridabad, and at the same time another man starts from Faridabad on cycle for Delhi. After passing each other they complete their journeys in  $2\frac{6}{7}$  and  $5\frac{3}{5}$  hours respectively. At what rate does the second man cycle if the first man cycles at 14 kmph?

- (a) 10 kmph (b) 5 kmph  
(c) 7 kmph (d) 8 kmph  
(e) None of these

50. The length of rectangular floor is twice its breadth. If Rs 256 is required to paint the floor at the rate Rs 2 per sq m, then what would be the length of floor ?

- (a) 16 m (b) 8 m  
(c) 12 m (d) 32 m  
(e) 20 m

## Solutions

1. (c);
2. (b);
3. (b);
4. (d);
5. (e); The pattern is :  $\times 1 - 2, \times 2 - 2, \times 3 - 2, \times 4 - 2$
6. (e);
7. (d);
8. (b);
9. (a);
10. (a);
11. (a);
12. (a);  $x = 7, y = 2$   
 $\therefore x > y$
13. (c);  $x = 2, \frac{11}{9}$   
 $y = 3, 4$   
 $\therefore x < y$
14. (d);  $x = 4, \frac{-8}{3}$   
 $y = 4, \frac{9}{2}$   
 $\therefore x \leq y$
15. (a);  $x = 7, \frac{-2}{3}$   
 $y = \frac{-3}{2}, -1$   
 $\therefore x > y$
16. (e);  $x = -7$   
 $y = 0, -9$   
 $\therefore$  No relation between  $x$  and  $y$ .
17. (e); Average salary =  $\frac{1000 \times 430000}{1600} = 26875$
18. (b); Number of employees in :  
PNB = 1600  
OBC = 1700  
SBI = 2100
19. (e); Required ratio =  $15000 \times 600 : 35000 \times 900$   
 $= 2 : 7$
20. (e); Required percentage =  $\frac{400}{600} \times 100$   
 $= 66\frac{2}{3}\%$
21. (b); Required percentage =  $\frac{20000 \times 900}{25000 \times 800} \times 100 = 90\%$
22. (b); Required No. =  $\frac{280+354+343+535+433}{5} = 389$
23. (d); Required difference  
 $= (235 + 567) - 134 = 668$
24. (e); Required % =  $\frac{320+346+436}{255+343+545+546+453} \times 100$   
 $= \frac{1102}{2142} \times 100 \approx 51\%$
25. (d); Required animals  
 $= \frac{65}{100} \times (411 + 535 + 534) = 962$
26. (c); Required No. of lions  
 $= \frac{3}{4} (135 + 325 + 345 + 267) = 804$
27. (c); Let their salaries be 100, 300 and 400  
Their new salaries =  $105 : 330 : 460$   
 $= 21 : 66 : 92$
28. (b); Work done by the third pipe in 1 min.  
 $= (1/50) - [(1/60) + (1/75)] = [(1/50) - (3/100)]$

$$= (1/100)$$

$\therefore$  The third pipe can alone fill the tank in 100 minutes.

29. (e); Both the statements together is not sufficient.

30. (d); Both statements alone is sufficient.

Let age of A is  $x$  and age of B is  $y$ .

$$\therefore 3x = y \dots (i)$$

$$\text{From statement I: } \frac{x+10}{y+10} = \frac{3}{7} \dots (ii)$$

Solving equations (i) and (ii),  $x = 20, y = 60$

**From statement II:**

$$= \frac{x-10}{y-10} = \frac{1}{5}$$

$$\Rightarrow 5x - 50 = y - 10$$

$$\Rightarrow 5x - y = 40 \text{ (iii)}$$

From equations (i) and (iii),  $x = 20, y = 60$

31. (c); Let length the train be  $x$ .

**From statement I:**

$$\text{Speed} = \frac{x}{8}$$

**From statement II:**

$$\text{Speed} = \frac{x+50}{20}$$

$$\text{Solving this, } x = \frac{400}{12} = \frac{100}{3} \text{ meter}$$

32. (e); From I and II we find  $a + b = 2z$

we can not find  $a + b$  from I and II together.

33. (e); Data is not sufficient.

**From statement I:**

$$x = \frac{80}{100} \times z$$

**From statement II:**

$$y = \frac{60}{100} \times z$$

From these two equations  $\frac{x}{y} = \frac{4}{3}$  but cannot find

$x$  and  $y$  separately.

34. (d); Let the present age of Ranjana and Rakhi be  $15x$  and  $17x$

$$\frac{15x + 6}{17x + 6} = \frac{9}{10}$$

$$X = 2$$

$\therefore$  Age of Ranjana after 6 years  
 $= 15 \times 2 + 6 = 36$  years.

35. (b); S.I. = 7200

$$R = \frac{S.I \times 100}{P \times T} = \frac{7200 \times 100}{20,000 \times 3} = 12\%$$

$$C.I = 20000 \left[ \left( 1 + \frac{12}{100} \right)^3 - 1 \right]$$

$$= 8098.56$$

36. (a); Here volume of water emptied by the second pipe will be 4 times to that of first Hence, Time take will be 1/4 of the first pipe. When both the pipes are open the part of the tank emptied in 1 minute = 1/8 Hence the tank will be emptied in 8 minutes.

37. (b); Total CP = 2000 + 750 = 2750  
 Total SP =  $\frac{120}{100} \times 2000 + \frac{95}{100} \times 750$   
 = 2400 + 712.5  
 = 3112.5  
 $\therefore$  Total gain 3112 - 2750 = 362.5

38. (a); Let Man = x  
 Woman = 2x  
 $\therefore \frac{8}{x} + \frac{4}{2x} = \frac{1}{6}$   
 $\frac{20}{2x} = \frac{1}{6}$   
 x = 60  
 $\therefore$  Man = 30, woman = 120  
 Required No. of days =  $\frac{\frac{2}{3}}{\frac{1}{60} + \frac{1}{120}}$   
 =  $\frac{2 \times 120}{3(16)}$   
 = 5 days

39. (c); Let their investment be x, 2x and 4x  
 $\therefore A \rightarrow 6x + 6 \times \left(x + \frac{x}{2}\right) = 6x + 9x = 15x$   
 $B \rightarrow 6 \times 2x + 6 \times 4x = 36x$   
 $C \rightarrow 6 \times 4x + 6 \times \left(4x - \frac{1}{4} \times 4x\right) = 24x + 18x$   
 = 42x  
 $\therefore$  Required Ratio = 15 : 36 : 42  
 = 5 : 12 : 14

40. (b); Number of questions attempted correctly =  
 70% of 10 + 50% of 30 + 60% of 45 = 7 + 15 + 27 = 49  
 Passing grade =  $(60/100) \times 85 = 51$   
 Reqd. Ans = 51 - 49 = 2

41. (c); Age of new man = 28 + 28 = 56 years

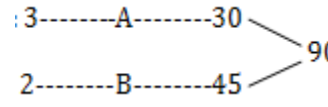
42. (b); 11%  $\rightarrow$  5236  
 1%  $\rightarrow$  476  
 $\therefore (11 + 19 + 7) = 37\% \rightarrow 17612$  Rs.

43. (c); Probability =  $\frac{2c_1 \times 3c_2 + 2c_2 \times 3c_1}{5c_3}$   
 =  $\frac{2 \times 3 + 1 \times 3}{10}$   
 =  $\frac{9}{10}$

44. (d); B =  $\frac{1}{\frac{1}{12} - \frac{1}{20}} = \frac{1}{\frac{5-3}{60}}$   
 B = 30 days  
 $\therefore$  Required No. of days =  $\frac{1}{\frac{1}{20} + \frac{1}{60}}$   
 =  $\frac{60}{4} = 15$  days

45. (b);  $\frac{132 \times 5}{18} = \frac{100 + 165}{t}$   
 $t = \frac{275 \times 18}{132 \times 5}$   
 t = 7.5 seconds

46. (b);  $\frac{3x}{12x+3} = \frac{3x}{15x}$   
 $\therefore$  New ratio = 1 : 5  
 $\therefore$  Required % =  $\frac{1}{6} \times 100\%$   
 =  $\frac{50}{3}\%$   
 =  $16\frac{2}{3}\%$

47. (d);  
  
 Let B turned off after T min  
 $2T + 3 \times 20 = 90$   
 $T = 15$  min

48. (a);  $(2M + 3B)10 = (3M + 2B)B$   
 $20M + 30B = 24M + 16B$   
 $2M = 7B$   
 $\therefore 10B = 10$  days  
 $\therefore B = \frac{1}{100}$  days  
 $\therefore 2M + 1B = 7B + B$   
 = 8B  
 =  $\frac{8}{100} = \frac{2}{25}$   
 $\therefore$  Required No. of days =  $12\frac{1}{2}$  days

49. (a); Ratio of their speeds =  $\sqrt{\frac{28}{5}} : \sqrt{\frac{20}{7}}$   
 $\therefore \sqrt{\frac{28}{5}} \rightarrow 14$   
 $\therefore \sqrt{\frac{20}{7}} \rightarrow \frac{14}{\sqrt{28}} \times \sqrt{5} \times \frac{\sqrt{20}}{\sqrt{7}}$   
 =  $\frac{14}{2\sqrt{7}} \times \sqrt{5} \times \frac{2\sqrt{5}}{\sqrt{7}}$   
 =  $\frac{14 \times 5}{7}$   
 = 10 kmph

50. (a); Area =  $2x^2$  m<sup>2</sup>



$\therefore 2x^2 \times 2 = 256$   
 $x^2 = 64$   
 $x = 8$   
 $\therefore$  Required length =  $2 \times 8 = 16$  m