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MATH LECTURE - 12

REAL QUESTIONS
FROM PREVIOUS YEARS' IBA EXAMS!

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This lecture sheet contains questions that have appeared in the previous years' BBA and MBA Exams of IBA

1. The mile meter of a highway bus misses every 11th mile being travelled. After a certain time, the meter shows that 1,251 miles were travelled. How many miles were actually travelled?

[BBA Admission Test: 2013-14]

a. 1360 mites b. 1460 miles c. 1386 miles d. 1376 miles e. none of these

2. One City-bus charges BDT 'p' for the first half-kilometer of a trip and BDT 'p/8' for each additional half-kilometer. What is the charge for a trip whose distance in kilometers is the whole number 'q'?

[BBA Admission Test: 2019-20]

a. (7p+2pq)/8 b. 8/ (7p+2pq) c. (8p+pq)/8 d. Cannot be determined e. (4p+pq)/4

3. If x is a positive integer and y > –2, which of the following must be positive?

[BBA Admission Test: 2002-03]

a. 3x + 4y b. $\frac{x+y}{y}$ c. $\frac{2x+y}{x-y}$ d. xy e. None of these

4. An empty metal box weighs 10% of its total weight when filled with varnish. If the weight of a partly filled box is one-half that of a completely filled box, wheat fraction of the box is filled?

[MBA Admission Test: 2007-08]

a. $\frac{3}{5}$ b. $\frac{5}{9}$ c. $\frac{1}{2}$ d. $\frac{4}{9}$ e. None of these

5. The probability of rolling any number on a weighted 6-sided die, with faces numbered 1 through 6, is directly proportional to the number rolled. What is the probability of getting 5, if the die is rolled only once?

[BBA Admission Test: 2015-16]

a. 1/6 b. 5/6 c. 5/16 d. 5/21 e. none of these

6. A long rope has to be cut to make 23 small pieces. If it is double folded to start with, how many times does it need to be cut?

[BBA Admission Test: 2019-20]

a. 9 b. 11 c. 12 d. 23 e. None of these

7. The length of each side of a triangle is an even number. If no two of the sides are equal, what is the smallest perimeter the triangle could have

[BBA Admission Test: 2017-18]

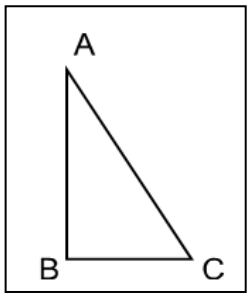
a. 18

b. 16

c. 14

d. 12

e. None of these



8. Mr. Saif has n luxury apartments, where n is an integer such that 20 <n <50. If he divides the apartments equally among his 5 children, he will have 2 apartments remaining. If he divides the apartments among 6 children, he will have 1 apartment remaining. How many apartments will remain if he divides the apartments among 7 children?

[BBA Admission Test: 2013-14]

a. 3 b. 2 c. 4 d. 1 e. none of these

9. How many different 3 digit numbers can be formed, such that 1st and 3rd place should be filled up with odd numbers? *[BBA Admission Test: 2017-2018]*

a. 400 b. 250 c. 150 d. 120 e. None of these

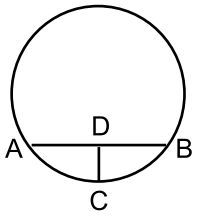
10. The amount of tax paid by Araf remains constant despite an increase of Tk. 2000 in his salary because the rate of the tax was reduced from 15% to 12%. If 30% of his income was exempted from tax in both the cases what was his salary (in taka) before rise?

[MBA Admission Test: 2012-13, December]

a. 8000 b. 10000 c. 12000 d. 13500 e. None of these

11. The diameter of a circle is 10cm and DC = 2cm. If $\angle ADC = 90^\circ$ and AD = DB, what is the length of AB?

[BBA Admission Test: 2000-01]



a. 6
b. 8
c. 9
d. 12
e. None of these

12. An oddly shaped rock having uniform density and weighing 64 grams is broken into two pieces. One of the two pieces weighs 48 grams and has volume of 33 cc. What is the volume of the original rock?

[MBA Admission Test: 2003-04]

a. 11 b. 22 c. 33 d. 44 e. 66

13. If $\frac{x}{b-c} = \frac{y}{c-a} = \frac{z}{a-b}$, then x + y + z = ?

[BBA Admission Test: 2001-02]

a. 0 b. a + b + c c. $\frac{a+b+c}{abc}$ d. 1 e. None of these

14. If the length of each sides of three square garden plots is increased by 50%, by what percent is the sum of the areas of the three plots increased? *[BBA Admission Test: 2013-14]*

a. 375% b. 200% c. 150% d. 125% e. 50%

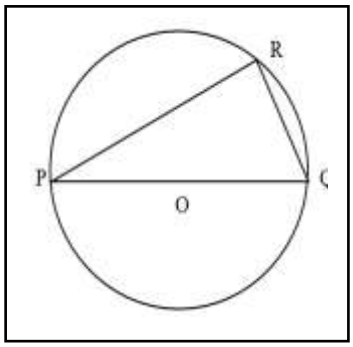
15. If a < b, which of the following must be positive?

[BBA Admission Test: 2011-12]

a. $a^2 - b^2$ b. $b^2 - a^2$ c. $a^3 - b^2$ d. $b^2 - ab$ e. None of these

16. In the figure beside O is the center of the circle and PQ is the diameter and angle P=30 degrees, If the length of PR is 12 cm, what is the area of the circle? *[BBA Admission Test: 2019-20]*

a. 144π
b. 48 π
c. 288 π
d. 216 π
e. 96 π



17. 2pq5 is a four digit number divisible by 25. If the number formed from the two digits pq is a multiple of 13. Then pq = *[BBA Admission Test: 2015-16]*

a. 10 b. 25 c. 52 d. 65 e. none of these

18. In a flight of 600 km, an aircraft was slowed down due to bad weather. Its average speed for the trip was reduced by 200 km/hr and the time of flight consequently increased by 30 minutes. The duration of the flight (in hours) was: *[BBA Admission Test: 2019-20]*

a. 1 b. 1.5 c. 2 d. 2.5 e. 3

19. If all chocolates from a box were equally distributed among some children, each child would get 3 chocolates. If three more children are added to the group and you want to give each child 2 chocolates, you will run short by one chocolate. How many chocolates do you have for distribution?

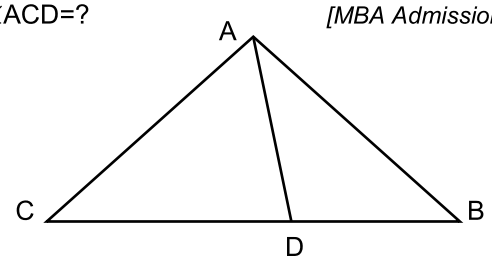
[BBA Admission Test: 2002-03]

a. 12 b. 15 c. 16 d. 18 e. None of these

20. In the figure, AD=DB=CD. If $\angle ABD = 25^\circ$, $\angle ACD$=? *[MBA Admission Test: 2001-02]*

a. 50° b. 65° c. 70°

d. 75° e. None of these



21. A rectangle having an area of 56 cm^2 is formed when one side of a square is decreased by 5 cm and another side of the same square is increased by 5 cm. What is the perimeter of the original square (in cm)?

[BBA Admission Test: 2012-13]

a. 36 b. 40 c. 44 d. 48 e. None of these

22. The price of one kilogram (kg) sugar is 175% of the price of one kg salt. If 7 kgs of sugar and 5 kgs of salt cost BDT 690, what is the difference between the prices of one kg sugar and two kgs salt?

[BBA Admission Test: 2019-20]

a. 10 b. 15 c. 25 d. 30 e. 35

23. If (a + a + a) = (b + b + b + b) and (a + b) = 7, then what is the value of (a2 – b2)?

[BBA Admission Test: 2015-16]

a. 0 b. 3 c. 4 d. 7 e. none of these

24. A rectangular field is to be fenced on three sides leaving a side of 10 feet uncovered. If the area of the field is 240 square feet, how many feet of fencing will be required? *[BBA Admission Test: 2017-18]*

a. 48 b. 58 c. 68 d. 78 e. None of these

25. In the figure, O is the centre of the circle, AB is parallel to DC and $\angle AOD = 58^\circ$. Find $\angle ABC$.

[BBA Admission Test: 2011-12]

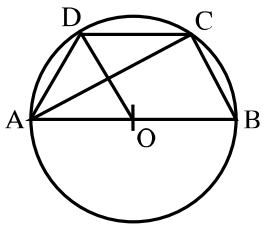
a. 47°

b. 56°

c. 61°

d. 67°

e. None of these



26. Fill in each of the empty spaces between the numbers in the following series with symbols +, -, / and × (use each symbol only once and no parenthesis). What is the least possible value of the result?
1___3___5___7___9=? *[BBA Admission Test: 2019-20]*

a. -5.29 b. -57.67 c. -61.4 d. -2.3 e. -3.29

27. During a particular day, x number of applicants came to IBA to submit their applications before lunch. Of them, 70% were male applicants. On the same day, y number of applicants came to submit their applications after lunch and all of them were male applicants. On that particular day, the ratio of male applicants to female applicants was 4:1. Calculate y in terms of x.

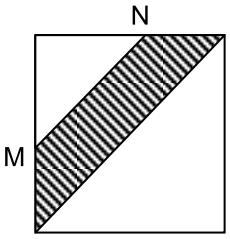
[BBA Admission Test: 2003-04]

a. 0.28x b. 0.35x c. 0.4x d. 0.5x e. None of these

28. What is the perimeter of the shaded region in the following square whose length of each side is 2 and M and N are the middle points of the two sides?

[MBA Admission Test: 2011-12, December]

a. 3
b. $2 + 3\sqrt{2}$
c. $3 + 2\sqrt{2}$
d. 5
e. None of these



29. Which of the following must be an integer if x is a positive integer and $(\frac{4}{x}+\frac{5}{x}+\frac{6}{x})$ is also an integer?

[BBA Admission Test: 2004-05]

a. $\frac{x}{5}$ b. $\frac{5}{x}$ c. $\frac{x}{30}$ d. $\frac{30}{x}$ e. None of these

30. The average age of a team is 32.7 years. The average age of the males in the team is 33.2 years and the average age of the females is 32.2 years. What is the ratio of the number of females to the number of males in the team? *[BBA Admission Test: 2019-20]*

a. 3:2 b. 1:1 c. 3:5 d. 2:3 e. 1:2

31. After 2 quizzes, Apu had an average of 15 marks per quiz. In order to increase the average by n marks, what should be his score in the 3rd quiz? *[BBA Admission Test: 2016-17]*

a. 3n b. 30+3n c. 15n d. 15 + 3n e. none of these

32. If -1<x<0, which of the following expressions has the greatest value? *[BBA Admission Test: 2019-20]*

a. 1-x b. 1+x c. C. $1+x^2$ d. 1-1/x e. 1+1/x

33. A cow is tied to the corner of a square of side 15m with a rope of length 14m. Find the area the cow can graze and the area which it cannot.

[BBA Admission Test: 2006-07]

a. 144 m^2, 77 m^2 b. 135m^2, 73 m^2 c. 164 m^2, 77 m^2 d. 154 m^2, 71 m^2 e. None of these

34. One-fourth of a number is equal to two-fifth of another number. If 50 is added to the larger number, it becomes two times the second number. What is the smaller number? *[BBA Admission Test: 2014-15]*

a. 75 b. 80 c. 100 d. 125 e. None of these

35. The age of the father of two children is twice that of the elder one added to four times that of the younger one. If the arithmetic mean and the product of the ages of the two children are 8 years and 48 years respectively, then what is the age of the father?

[BBA Admission Test: 2010-11]

a. 48 years b. 32 years c. 40 years d. 42 years e. None of these

36. If both 5^2 and 3^2 are factors of *x,* where $x = n \times 2^5 \times 6^2 \times 7^3$, what is the smallest possible positive value of n?

[MBA Admission Test: 2007-08]

a. 25 b. 27 c. 45 d. 75 e. None of these

37. The average of the ages of a man and his son is 35 years. After 10 years, the ratio of their ages will be 2:1. What is the son's present age in years? *[BBA Admission Test: 2014-15]*

a. 15 b. 16 c. 20 d. 25 e. none of these

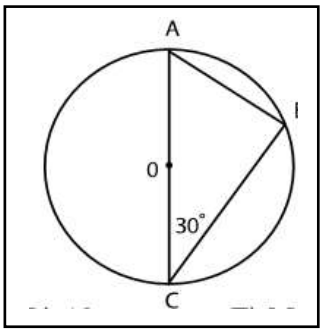
38. A circular region has circumference c inches and area k square inches. If c = 3k, what is the radius of the circle in inches?

[MBA Admission Test: 2003-04]

a. $\sqrt{2}/3$ b. $\sqrt{(2/3)}$ c. 2/3 d. $4\pi/9$ e. None of these

39. The circle with center O has a circumference of $12\pi\sqrt{3}$. If AC is a diameter of the circle, what is the length of line segment AB? *[BBA Admission Test: 2017-18]*

a. $3\sqrt{2}$
b. 6
c. $6\sqrt{3}$
d. 18
e. None of these



40. XYZ company hired an accountant and 8 office assistants to do a job. The daily wage for theaccountant is 4 times more than that of an office assistant. If the company paid a total of Tk m for the work, how much was paid to the accountant? *[BBA Admission Test: 2017-18]*

a. m/3 b. m/4 c. 4m/11 d. 2m/13 e. None of these

41. A can work three times faster than B. A takes 60 days less than B to do a work. Find the number of days it would take to complete the work if both work together. *[BBA Admission Test: 2006-07]*

a. $22\frac{1}{2}$ days b. 32 days c. $24\frac{1}{3}$ days d. 26 days e. None of these

42. In a journey from Banani to Motijheel, half the people on a bus exit at each stop and no additional passenger board on the bus. If on the third stop, next to the last person exits the bus, then how many people were on the bus at the time of the start of the journey?

[MBA Admission Test: 2009-10]

a. 20 b. 16 c. 8 d. 6 e. None of these

43. The sale of TV increased by 30% when the price was reduced by 10%. What will be the percentage change in revenue? *[BBA Admission Test: 2016-17]*

a. +14% b. +15% c. +17% d. +18% e. none of these

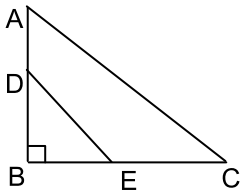
44. If $2^x = (16^2 \times 8^3 \times 4^4) / 2^{20}$, then x =?

[MBA Admission Test: 2008-09]

a. 4 b. 5 c. 6 d. 7 e. None of these

45. The triangles ABC and EBD are similar (AC and DE are not parallel). If AB = 8 cm, BE = 4 cm, and the area of DBE = 6 cm^2, find the area of ABC in cm^2.

[BBA Admission Test: 2007-08]



a. 18
b. 24
c. 36
d. 48
e. None of these

46. There are 4 women and 4 men sitting in a waiting room for job. If two of the applicants are selected at random, what is the probability that both will be women?

[MBA Admission Test: 2010-11, June]

a. 1/2 b. 3/7 c. 3/4 d. 3/14 e. None of these

47. After 2 females leave a party there are twice as many males as females. Then 9 males leave the party and there are twice as many females as male. How many females attended the party?

[BBA Admission Test: 2008-09]

a. 6 b. 8 c. 16 d. 24 e. None of these

48. What is the simple average of 3^{30}, 3^{31}, and 3^{32}?

[MBA Admission Test: 2011-12, June]

a. 3^{31} b. 13 (3^{28}) c. 39 (3^{29}) d. 16 (3^{30}) e. None of these

49. The average salary of Arif and Babu is Tk. 10,000 and that of Sabbir and Babu is Tk. 12,000. What is the difference between Sabbir's salary and Arif's salary? *[BBA Admission Test: 2016-17]*

a. 4000 b. 5000 c. 6000 d. 6250 e. none of these

50. If # is an operator such that (4 #2 = 14) and (2 #3 = 6), what will be the value of (5 # 2)?

[BBA Admission Test: 2014-15]

a. 11 b. 19 c. 23 d. 25 e. None of these