1. Find the value of $(\sqrt{5} + \sqrt{3}) / (\sqrt{5} - \sqrt{3})$.

(a) 7.873

(c) 5.896

(b) 6.856

(d) 4.823

2. Solve for "x" : $\text{Log}_{64} x = 1/3$.

(a) 2

(c) 3

(b) 0

(d) 4

3. Find the value of $(1/\log_2 42) + (1/\log_3 42) + (1/\log_7 42)$.

(a) -1

(c) 1

(b) 0

(d) 2

4. If log2 = 0.3010, find the value of log 5

(a) 0.3772 (c) 0.1772

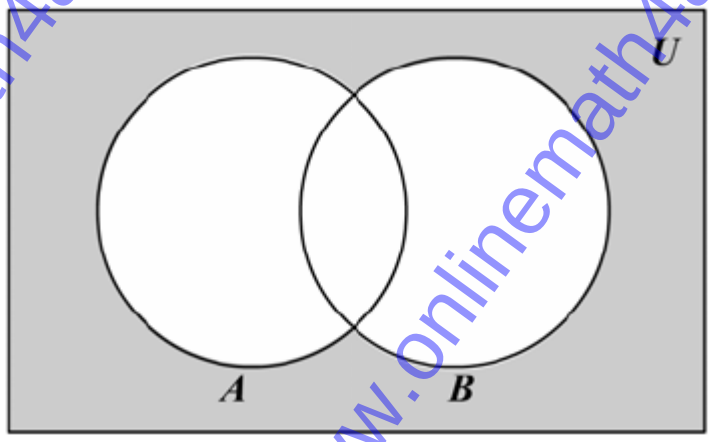
(b) 0.6990 (d) 0.5990

5. If $A = \{1,2,3\}$, find $n[p(A)]$.

(a) 8 (c) 2

(b) 5 (d) 3

6.



The above diagram represents

(a) $(A \cup B)$ (c) $(A \cap B)$

(b) $(A \cap B)^c$ (d) $(A \cup B)^c$

7. Out of 45 houses in a village 25 houses have T.V and 30 houses have radio. Find how many of them have both.

(a) 30

(c) 31

(b) 10

(d) 20

8. Find the length of the arc of the sector whose area is 336 sq.cm and the radius is 28 cm.

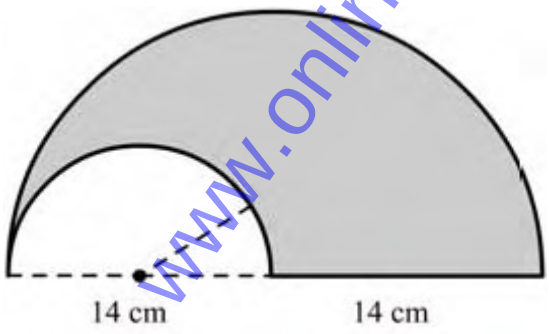
(a) 24 cm

(c) 34 cm

(b) 14 cm

(d) 44 cm

9. Find the area of the shaded portion in the below figure.



(a) 421 sq.cm

(c) 221 sq.cm

(b) 441 sq.cm

(d) 231 sq.cm

10. Solve: $x+y = 3$, $y+z=-5$ and $z+x=2$

(a) 6, -1, -2

(b) -5, -1, 3

(c) 5, -2, -3

(d) -2, 1, 4

11. Find the square root of $(x^2+4x+4)(x^2-6x+9)(x^2+2x+1)$.

(a) $(x-2)(x-3)(x+1)$

(b) $(x+2)(x-3)(x+1)$

(c) $(x+2)(x+3)(x+1)$

(d) $(x+2)(x-3)(x-1)$

12. At what rate percent will a sum $4000 amount to $ 4410 in years at compound interest?

(a) 6%

(b) 3%

(c) 5%

(d) 4%

.

13. A building was constructed at a cost of $200000. The cost of the building depreciates at the rate of 12% every year. Find the estimated cost of the building at the end of 3 years.

(a) 133294.40

(c) 135294.40

(b) 134294.40

(d) 136294.40

14. Find the area of the parallelogram whose one side is 5.4 cm. and the corresponding altitude is 2.2 cm.

(a) 11.88 sq.cm

(c) 22.88 sq.cm

(b) 33.88 sq.cm

(d) 33.88 sq.cm

15. A ladder of length 41 m is placed with its foot at a distance of 9 m from a wall. To what height of the wall does it reach?

(a) 44 m

(c) 24 m

(b) 34 m

(d) 40 m

16. A chord 24 cm long is drawn in a circle 5 cm away from its centre. Calculate the diameter of the circle.

(a) 76 cm

(c) 26 cm

(b) 36 cm

(d) 46 cm

17. Find the value of "a", such that $AB=BC$ given $A(5,-1)$, $B(0,3)$ and $C(a,8)$.

(a) 1,-1

(c) 4,-4

(b) 3,-3

(d) 5,-5

18. A pole of length 5 m, rests against a vertical wall at an angle of 60° with the ground. Find the height up to which it will reach the wall.

(a) 4.330 m

(c) 4.220 m

(b) 4.440 m

(d) 4.550 m

19. Evaluate: cos56°/sin34°

(a) 2

(c) 1

(b) 4

(d) 3

20. The monthly salary of Daniel is 12% more than that of Joseph. The ratio of Joseph and Alva's salary is 2: 3 and the sum of their salaries is $1000. What is the difference between the salaries of Joseph and Alva?

(a) $300

(c) $200

(b) $400

(d) $100

21. Two toy cars, 3 toy bikes and 3 toy bicycles cost $170 whereas 1 toy car, 1 toy bike and 1 toy costs $70 and 3 toy cars, 4 toy bikes and 5 toy bicycles cost $250. What is the cost of a toy bike?

(a) $20

(c) $40

(b) $30

(d) $50

22. Solve for "x":

$$\left[(x^{-1})^{\frac{5}{2}}\right]^{\frac{1}{3}} (x^2)^3$$

(a) $x^{31/7}$

(c) $x^{31/6}$

(b) $x^{21/6}$

(d) $x^{31/8}$

23. Set of all positive and negative integers including zero. The above set is a/an

(a) Finite set

(c) Infinite set

(b) Singleton set

(d) none of these

24. An IIM exam consists of 12 questions divided in to parts A and B. Part A contains 7 questions and part B contains 5 questions. A candidate is required to attempt 8 questions selecting at least 3 from each part. In how many maximum ways can the candidate select the questions?

(a) 256

(c) 220

(b) 385

(d) 420

25. Charley was 4 times as old as his son 8 years ago. After 8 years Charley will be twice as old as his son. What are their present ages?

(a) 40,16

(c) 42, 18

(b) 36, 12

(d) 48, 13

26. In an election contested by two candidates, 5% of the voters did not caste their votes. The successful candidate won by 4900 votes, securing 51% of the total votes. How many votes did the defeated candidate get?

(a) 32800

(c) 30800

(b) 31800

(d) 29800

27. An article when sold for $840 earns a profit which is double the amount of loss, when the same article is sold for $600. What is the cost price of the article?

(a) $320

(c) $680

(b) $520

(d) $240

28. A can do a piece of work in ten days, B in 12 days and C in 15 days. All begin together, but A leaves the work after two days and B leaves 3 days before the work is finished. How long did the work last?

(a) 4 days

(b) 5 days

(c) 3 days

(d) 7 days

29. The difference between the compound interest and simple interest on a certain amount at 10% per annum at the end of the third year is $620. What is the principal amount?

(a) $20000

(b) $15000

(c) $10000

(d) $25000

30. It is proposed to construct a wall 15 m long, 10 m high and 20 cm thick. Find the number of bricks measuring 34 cm x 10 cm x 5 cm each, required to construct this wall. It is understood that 15% of the total volume of the wall is filled with mortar.

(a) 15000

(b) 12500

(c) 10000

(d) 7500

31. In what ratio must the qualities of tea at $4 per kg and $6 per kg be mixed together to get a mixture of costing $4.8 per kg.?

(a) 1:4

(c) 2:3

(b) 4:1

(d) 3:2

32. Find the total number of prime factors in the expression $4^{11}x7^{5}x11^{2}$.

(a) 29

(c) 35

(b) 45

(d) 65

33. Find the sum of all two digit numbers are divisible by 3.

(a) 1223

(c) 1665

(b) 1556

(d) 1442

34. If $(x/y) = 6/5$, find the value of $(x^2+y^2) / (x^2-y^2)$.

(a) 71/10

(c) 21/13

(b) 61/11

(d) 34/5

35. Find the length of a rope by which a cow must be tethered in order that it may be able to graze an area of 19856 sq.m.

(a) 43 m

(c) 82 m

(b) 56 m

(d) 36 m

36. The radii of two cylinders are in the ratio 3:5. And their heights are in the ratio of 2:3. Find the ratio of their curved surface areas.

(a) 2:5

(c) 4:3

(b) 5:2

(d) 3:4

37. A cube of side 8 cm is out to a number of cubes each of side 2 cm. The number of cubes will be

(a) 81

(c) 64

(b) 125

(d) 49

38. What was the day of the week on 16 th July 1776.

(a) Monday

(c) Wednesday

(b) Tuesday

(d) Sunday

39. Find the angle between the hour hand and the minute hand of a clock when the time is 3.25.

(a) 47.5°

(c) 89.5°

(b) 90°

(d) 91°

40. Find the income derived from 88 shares of $25 each at 5 premium, brokerage being 0.25 per share and the rate of dividend being 7.5 % per annum.

(a) 149

(c) 159

(b) 129

(d) 165

41. In how many ways, a committee of 5 members can be selected from 6 men and 5 ladies, consisting of 3 men and 2 ladies.

(a) 245

(c) 200

(b) 225

(d) 275

42. In a simultaneous throw a pair of dice, find the probability of getting a total more than 7.

(a) 5/12

(c) 4/13

(b) 3/11

(d) 0

43. The wages of 43 employees are given. Find the median.

Wage	25	35	45	55	65
No. of Employees	3	5	20	10	5

(a) 24

(b) 45

(c) 44

(d) 54

44. Running (6/7) his usual speed, a man is 25 minutes too late. Find his usual time.

(a) 2 hours 30 minutes

(b) 1 hours 30 minutes

(c) 2 hours 45 minutes

(d) 1 hours 45 minutes

45. The angles of a triangle are in arithmetic progression. The common difference is 6. Find the angles of the triangle.

(a) 40, 46, 52

(b) 50, 56, 62

(c) 60, 66, 72

(d) 54, 60, 66

46. Find the sum of $20^2+21^2+22^2+\ldots\ldots\ldots\ldots 55^2$

(a) 25500 (c) 54510

(b) 32500 (d) 45550

47. Find the sum of $5+10+15+\ldots\ldots\ldots\ldots\ldots\ldots\ldots 100$.

(a) 1025 (c) 1050

(b) 1200 (d) 1014

48. When ten coins are thrown, what is the probability of getting an even number?

(a) 0 (c) 3/5

(b) 1/4 (d) 5/8

49. Find the two consecutive odd number whose product is 323.

(a) 13,15 (c) 17,19

(b) 11,13 (d) 21,23

50. Find the ratio in which the line segment joining the points (– 3, 10) and (6, – 8) is divided by (– 1, 6).

(a) 5:7

(c) 7:2

(b) 3:8

(d) 2:7

Answers

1. a	2. d	3. c	4. b	5. a	6. d
7. b	8. a	9. d	10. c	11. b	12. c
13. d	14. a	15. d	16. c	17. c	18. a
19. c	20. c	21. a	22. c	23. b	24. d
25. a	26. c	27. c	28. d	29. a	30. a
31. d	32. a	33. c	34. b	35. b	36. a
37. c	38. b	39. a	40. d	41. c	42. a
43. b	44. a	45. d	46. c	47. c	48. a
49. c	50. d				