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Previous Year Paper

Mathematics - 2016

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Multiple Choice Questions

- The diagonals AC and BD of a parallelogram ABCD intersect each other at the point O. If $\angle DAC = 32^\circ$, $\angle AOB = 70^\circ$, then $\angle DBC$ is equal to
 - 24°
 - 86°
 - 38°
 - 32°

Answer

- It is proposed to build a single circular park equal in area to the sum of areas of two circular parks of diameters 16 m and 12 m. The radius of the new park would be
 - 10m
 - 15m
 - 20m
 - 24m

Answer

- An edge of a cube measures r cm. If the largest possible right circular cone is cut out of this cube, then the volume of the cone (in cm^3) is
 - $16\pi r^3$
 - $112\pi r^3$
 - $13\pi r^3$
 - $23\pi r^3$

Answer

- If 13^{50} is divided by 14, the remainder is
 - 13
 - 12
 - 1
 - 1

Answer

- Factors of $x^2 + 32x + 4$ are
 - $x + 22x - 2$
 - $x + 22x + 2$
 - $x - 22x - 2$
 - $x - 22x + 2$

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6. Two adjacent sides of a parallelogram are 74 cm and 40 cm. If one of its diagonals is 102 cm, then area of the parallelogram is
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- A. 618 sq.cm
- B. 1224 sq.cm
- C. 2448 sq.cm
- D. 1242 sq.cm

Answer

7. The distance of the point (- 7, - 2) from Y-axis is

- A. 9 unit
- B. 51 unit
- C. 7 unit
- D. 2 unit

Answer

8. solid cylinder has total surface area of 462 sq. cm. If its curved surface area is one-third of its total surface area, then the volume of the cylinder will be

- A. 639 cm^3
- B. 539 cm^3
- C. 439 cm^3
- D. 600 cm^3

Answer

9. A rectangular piece of paper 11 cm x 4 cm is folded without overlapping to make a cylinder of height 4 cm, then the volume of the cylinder will be

- A. 37.5 cm^3
- B. 38.5 cm^3
- C. 35.8 cm^3
- D. 28.5 cm^3

Answer

10. As per national curriculum framework 2005, the sequence of Mathematics

- A. Before language
- B. After language
- C. After science
- D. After social science

Answer

11. Inductive method of teaching Mathematics we proceed from

- A. Abstract to concrete
- B. General to specific

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D. Unknown to known

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Answer

12. In a pair of adjacent angles (i) Vertex is always common, (ii) one arm is always common and (iii) uncommon arms are always opposite rays. Then
- A. (ii) is false
 - B. (iii) is false
 - C. All (i), (ii) and (iii) are true
 - D. (i) is false, but (ii) and (iii) are true

Answer

13. If area of an eq lateral triangle is 'a' having height 'b', then b^2/a is
- A. 13
 - B. 13
 - C. 3
 - D. 3

Answer

14. A horse is tethered to a stake by a rope of 30 m long. If the horse moves along the circumference of a circle keeping rope tight, find that how far the horse have gone from initial point if the rope has traced an angle of 105° at the centre ?
- A. 55 m
 - B. 5.5 m
 - C. 155 m
 - D. 25 m

Answer

15. The sum of two natural numbers is 8. Determine the numbers if the sum of their reciprocals is $\frac{8}{15}$
- A. 3, 5
 - B. 6, 2
 - C. 4, 4
 - D. None of these

Answer

16. The ratio of two numbers is 5 : 6 and their HCF is 12. Their LCM is
- A. 60
 - B. 72
 - C. 180
 - D. 360

Answer

17. The value of $5813 + 2713314$ is
- A. 5

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D. 5^4

Answer

18. The price of petrol increased by 25%. In order that expenses on petrol should not increase, one must reduce travel
- A. 25%
 - B. 20%
 - C. 18%
 - D. 15%

Answer

19. If $x = 3 + 8$, then value of $x^3 + 1x^3$ is
- A. 216
 - B. 198
 - C. 192
 - D. 261

Answer

20. If each exterior angle of a regular polygon is 18° , then the number of sides of the polygon is
- A. 10
 - B. 15
 - C. 20
 - D. 30

Answer

21. The graphs of lines $x + 2y - 3 = 0$ and $2x + 4y + 11 = 0$
- A. intersect at each other
 - B. coincide with each other
 - C. are parallel to one another
 - D. are perpendicular to each other

Answer

22. There are 10 persons in a party. If each one of them shakes hand with others exactly once. The total number of handshakes is
- A. 105
 - B. 55
 - C. 45
 - D. None of these

Answer

23. A man and his wife appear for an interview for two posts. The probability of husband's selection is $\frac{1}{7}$ and that of wife's selection $\frac{1}{5}$. What is the probability of only one of them will be selected

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B. 27

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D. 15

Answer

24. $5n + 3 - 6 \times 5n + 19 \times 5n - 22 \times 5n$ is

A. 91

B. 19

C. 10

D. 1

Answer

25. $59 + 45 - 9 - 45 = ?$

A. 12

B. 13

C. 15

D. 14

Answer

26. A man buys two books at Rs 410 and sells both at same price. One gives him a profit of 15% and another a loss of 10%. The cost price of both book is

A. 110, 260

B. 120, 290

C. 180, 230

D. None of these

Answer

27. Which of the following statement is true ?

A. $1212 > 1313$

B. $1212 < 1313$

C. $1212 = 1313$

D. None of these

Answer

28. Out of 12 observations arranged in ascending order, the sixth and seventh observations are 14 and 15 respectively. Find the median of all the 12 observations.

A. 29

B. 14.5

C. 15

D. None of these

Answer

29. Find the least number of square tiles required to pave the floor of a room 15 m 17 cm long and 9 m 2 cm broad

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C. 814

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D. None of these

Answer

30. A motor boat whose speed is 15 km/h in still water goes 36 km upstream and comes back to the starting point in 5 hours. Find the speed of the stream

A. 5 km/h

B. 10k/h

C. Cant determine

D. 3km/h

Answer