

CLASS-VIII CBE-OCT'2023
BHOPAL REGION
ANSWER KEY

1. Which number among the following number is surely not a perfect square number?

points

7744

5929

8100

9217

Feedback for correct answers

Numbers end with 2, 3, 7 & 8 are surely not perfect square numbers.

2. How many numbers are there between 15^2 and 16^2 ?

points

29

30

31

32

Feedback for correct answers

Between n^2 and $(n + 1)^2$ there are $2n$ numbers.

3. If we add $1 + 3 + 5 + 7 + 9 + 11 + 13 + 15 + 17 + 19$, we will get square of

points

13

12

10

11

Feedback for correct answers

The sum of first n odd natural numbers is n^2 .

4. The Pythagorean triplet whose one member is 12 is

points

12, 34, 36

12, 32, 35

12, 35, 37

12, 32, 37

Feedback for correct answers

For any natural number $m > 1$,

we have $(2m)^2 + (m^2 - 1)^2 = (m^2 + 1)^2$.

So, $2m$, $m^2 - 1$ and $m^2 + 1$ forms a Pythagorean triplet.

5. The smallest square number, which is divisible by each of the numbers 6, 9 and 15 is

points

90

900

540

450

Feedback for correct answers

The LCM of 6, 9 and 15 is $2 \times 3 \times 3 \times 5 = 90$

Prime factorization of 90 is $90 = 2 \times 3 \times 3 \times 5$

90 should be multiplied by 2×5 to make it a perfect square number.

6. In an auditorium, there are 9025 chairs. If the number of rows is equal to the number of columns, find out how many rows are there.

points

95

85

75

105

Feedback for correct answers

Find the square root of 9025.

7. Find the smallest number that should be added to 1290 to make it a perfect square.

points

6

7

8

9

Feedback for correct answers

Solve it by Division Method.

$$1225 = 35^2 < 1290 < 36^2 = 1296$$

We see that, $1290 + 6 = 1296 = 36^2$

8. 1729 is known as
points

Euclid Number

Pythagorean Number

Aryabhata Number

Hardy – Ramanujan Number

Feedback for correct answers

It is the smallest number that can be expressed as a sum of two cubes in two different ways:

$$1729 = 12^3 + 1^3$$

$$1729 = 10^3 + 9^3$$

9. The cube root of 13824 is

points

22

32

24

34

Feedback for correct answers

$$24 \times 24 \times 24 = 13824$$

10. 1188 is not a perfect cube. By which smallest natural number should 1188 be divided so that the quotient is a perfect cube?

points

44

4

11

2

Feedback for correct answers

$$1188 = 2 \times 2 \times 3 \times 3 \times 3 \times 11$$

If we divide 1188 by $2 \times 2 \times 11 = 44$, then the prime factorization of the quotient will not contain 2 and 11.

11. During dry weather, while combing hair, sometimes we experience hair flying apart. The force responsible for this is

points
force of gravity
electrostatic force.

force of friction.
magnetic force

Feedback for correct answers

electrostatic force

12. Two objects repel each other. This repulsion could be due to

points
frictional force only
electrostatic force only
magnetic force only
either a magnetic or an electrostatic force

Feedback for correct answers

either a magnetic or an electrostatic force

13. Which one of the following forces is a contact force?

points
force of gravity
magnetic force
force of friction

electrostatic force

Feedback for correct answers

force of friction

14. A force of 100 N is applied on an area of 4 m². Compute pressure being applied on the area.

points
100 pa.
50 pa.
25 pa.

5 pa.

Feedback for correct answers

25 pa.

15. Two boys A and B are applying force on a block. If the block moves towards the boy A, which one of the following statements is correct?

points

Magnitude of force applied by A is greater than that of B.

Magnitude of force applied by A is smaller than that of B.

Net force on the block is towards B.

Magnitude of force applied by A is equal to that of B.

Feedback for correct answers

Magnitude of force applied by A is smaller than that of B

16. Which of the following statements is incorrect?

points

Friction acts on a ball rolling along the ground

Friction acts on a boat moving on water.

Friction acts on a bicycle moving on a smooth road.

Friction does not act on a ball moving through air.

Feedback for correct answers

Friction does not act on a ball moving through air.

17. If we apply oil on door hinges, the friction will

points

increase

disappear altogether

decrease

will remain unchanged

Feedback for correct answers

decrease

18. A boy rolls a rubber ball on a wooden surface. The ball travels a short distance before coming to rest. To make the same ball travel longer distance before coming to rest, he may

points

spread a carpet on the wooden surface.

cover the ball with a piece of cloth.

sprinkle talcum powder on the wooden surface

sprinkle sand on the wooden surface.

Feedback for correct answers

sprinkle talcum powder on the wooden surface.

19. Whenever the surfaces in contact tend to move or move with respect to each other, the force of friction comes into play

points

only if the objects are solid.

only if one of the two objects is liquid.

only if one of the two objects is gaseous.

irrespective of whether the objects are solid, liquid or gaseous.

Feedback for correct answers

irrespective of whether the objects are solid, liquid or gaseous.

20. In a large commercial complex there are four ways to reach the main road. One of the path has loose soil, the second is laid with polished marble, the third is laid with bricks and the fourth has gravel surface. It is raining heavily and Paheli wishes to reach the main road. The path on which she is least likely to slip is

points

loose soil.

bricks.

polished marble

gravel.

Feedback for correct answers

gravel.

21. The Judges of the supreme court are appointed by the:

(a) Chief justice of India

(b) People

(c) Prime Minister

(d) President

22. Judge decides the case only on the basis of:

(a) Evidence

(b) Money

(c) Force

(d) Favour

23. The power of Judicial Review is vested with:

(a) Parliament

(b) High Court

(c) The Supreme Court

(d) President

24. Judiciary in India resolve the disputes between -

- (a) State and State
- (b) State and Citizen
- (c) Citizen and Citizen
- (d) All the above

25. The high court of Delhi came up

- (a) 1862
- (b) 1966
- (c) 2019
- (d) 1980

26. Who was the adopted son of Peshwa Baji Rao II?

- (a) Mahadeo Rao
- (b) Baji Rao III
- (c) Nana Saheb
- (d) Taty Tope

27. Name the three nodal of the revolt of 1857.

- (a) Delhi, Kanpur, Lucknow
- (b) Delhi, Agra, Kanpur
- (c) Agra, Kanpur, Delhi,
- (d) All

28. Choose the correct answer:

Place of Revolt Leader associated with

- (a) Meerut 1. Rani laxmi Bai
- (b) Delhi 2. Kadam Singh

- (c) Kanpur 3. Nana Saheb
(d) Jhansi 4. Bahadur Shah

- A a-2 b-4 c-3 d-1
B a-1 b-4 c-2 d-3
C a-3 b-2 c-1 d-4
D a-2 b-1 c-4 d-3

29. When was law making conversion to Christianity made easier?

- (a) 1862
(b) 1815
(c) 1850
(d) 1855

30. Why did the sepoys refuse to use new cartridges?

- (a) Sepoys were familiarized.
(b) Due to fat of cows and pigs.
(c) Both
(d) None of these.