

SVS Academy

Date : 26-10-2025

STD 9 Maths

Total Mark : 117

Question 2

*** Solve the following Question**

[70]

1. A person has earned his income during the financial year 2017-18. Then his assessment year is....
(A) 2016 - 17 (B) 2018 - 19 (C) 2017 - 18
(D) 2015 - 16
2. For different types of investments what is the maximum permissible amount under section 80C of income tax ?
(A) ₹1,50,000 (B) ₹2,50,000 (C) ₹1,00,000
(D) ₹2,00,000
3. The ratio of the total surface area of a sphere and a hemisphere of same radius is:
a. 2 : 1
b. 3 : 2
c. 4 : 1
d. 4 : 3
4. The total surface area of a hemisphere of radius r is:
a. πr^2
b. $2\pi r^2$
c. $3\pi r^2$
d. $4\pi r^2$
5. A cone, a hemisphere and a cylinder stand on equal bases and have the same height.
The ratio of their volumes is:
a. 1 : 2 : 3
b. 2 : 1 : 3
c. 2 : 3 : 1
d. 3 : 2 : 1

6. The slant height of a cone is increased by 10%. If the radius remains the same, the curved surface area is increased by:
- 10%
 - 12.1%
 - 20%
 - 21%
7. The cost of constructing a wall 8m long, 4m high and 10cm thick at the rate of ₹ 25 per m^3 is:
- ₹ 16
 - ₹ 80
 - ₹ 160
 - ₹ 320
8. If the radius of a cylinder is doubled and the height remains same, the volume will be:
- Doubled.
 - Halved.
 - Same.
 - Four times.
9. $2 \tan 45^\circ + \cos 45^\circ - \sin 45^\circ = ?$
- (A) 0 (B) 1 (C) 2
- (D) 3
10. Which of the following statements is true?
- (A) $\sin \theta = \cos (90 - \theta)$ (B) $\cos \theta = \tan (90 - \theta)$ (C) $\sin \theta = \tan (90 - \theta)$
- (D) $\tan \theta = \tan (90 - \theta)$
11. Which of the following is the value of $\sin 90^\circ$?
- (A) $\frac{\sqrt{3}}{2}$ (B) 0 (C) $\frac{1}{2}$
- (D) 1
12. $\frac{\cos 28^\circ}{\sin 62^\circ} = ?$
- (A) 2 (B) -1 (C) 0
- (D) 1
13. Which of the following data is not primary ?
- | | | |
|--|---|--|
| (A) By visiting a certain class, gathering information about | (B) By actual visit to homes, to find number of family members. | (C) To get information regarding plantation of |
|--|---|--|

attendance of
students.

soyabean done by
each farmer from
the village Talathi.

(D) Review the
cleanliness status of
canals by actually
visiting them.

14. What is the mode of 19, 19, 15, 20, 25, 15, 20, 15?

(A) 15

(B) 20

(C) 19

(D) 25

15. Mean of 100 observations is 40. The 9th observation is 30. If this is replaced by 70 keeping all other observations same, find the new mean.

(A) 40.6

(B) 40.4

(C) 40.3

(D) 40.7

16. The mean of five numbers is 50, out of which mean of 4 numbers is 46, find the 5th number.

(A) 4

(B) 20

(C) 434

(D) 66

17. How many points are there in the intersection of two distinct lines ?

(A) infinite

(B) two

(C) one

(D) not a single

18. How many lines are determined by three distinct points?

(A) two

(B) three

(C) one or three

(D) six

19. Find $d(A, B)$, if co-ordinates of A and B are - 2 and 5 respectively.

(A) -2

(B) 5

(C) 7

(D) 3

20. In which quadrant does the point (-4, -3) lie ?

(A) First

(B) Second

(C) Third

(D) Fourth

21. What is the equation of the X-axis ?

(A) $x = 0$

(B) $y = 0$

(C) $x + y = 0$

(D) $x = y$

22. In $\triangle ABC$, $\angle A = 76^\circ$, $\angle B = 48^\circ$, then $\angle C = \underline{\hspace{1cm}}$.

(A) 66°

(B) 56°

(C) 124°

(D) 28°

23. The number of angles formed by a transversal of two lines is ____.

(A) 2

(B) 4

(C) 8

(D) 16

24. What is the upper class limit for the class 25 – 35?

(A) 25

(B) 35

(C) 60

(D) 30

25. What is the class-mark of class 25 – 35?

(A) 25

(B) 35

(C) 60

(D) 30

26. Find the values of : $\cos 60^\circ \times \cos 30^\circ + \sin 60^\circ \times \sin 30^\circ$

27. Find the values of : $\frac{4}{5}\tan^2 60^\circ + 3\sin^2 60^\circ$

28. Total surface area of a cube is 864 sq.cm. Find its volume.

Given: Total surface area of cube = 864 sq. cm

To find: Volume of cube

29. Area of the base of a cone is 1386 sq. cm and its height is 28 cm. Find its surface area. ($\pi = \frac{22}{7}$)

30. Find the mode of 90, 55, 67, 55, 75, 75, 40, 35, 55, 95.

31. In a basket there are 10 tomatoes. The weight of each of these tomatoes in grams is as follows:

60, 70, 90, 95, 50, 65, 70, 80, 85, 95.

Find the median of the weights of tomatoes.

32. Point P is the midpoint of seg CD. If CP = 2.5, find l(CD).

33. Point M is the midpoint of seg AB. If AB = 8, then find the length of AM.

34. Sameera spent 90% of her income and donated 3% for socially useful causes. If she was left with ₹ 1750 at the end of the month, what was her actual income ?

35. Alka spends 90% of the money that she receives every month, and saves ₹ 120. How much money does she get monthly?

Question 3

*** Solve the following Question**

[27]

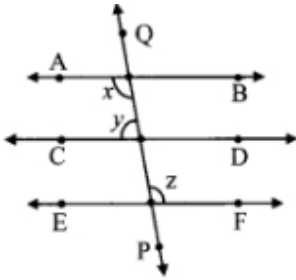
1. If diameter of a road roller is 0.9 m and its length is 1.4 m, how much area of a field will be pressed in its 500 rotations? ($\pi = \frac{22}{7}$)

Given: For road roller,

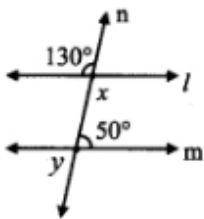
diameter (d) = 0.9 m, length (h) = 1.4 m

To find: Area of a field pressed in 500 rotations

2. In right angled triangle $\triangle PQR$, $\angle Q = 90^\circ$, $\angle R = \theta$ and if $\sin \theta = \frac{5}{13}$ then find $\cos \theta$ and $\tan \theta$
3. In the given figure, Line $AB \parallel$ line $CD \parallel$ line EF and line QP is their transversal. If $y : z = 3 : 7$ then find the measure of $\angle x$.



4. Following 10 observations are arranged in ascending order as follows. 2, 3, 5, 9, $x + 1$, $x + 3$, 14, 16, 19, 20. If the median of the data is 11, find the value of x .
5. Find (i) the slant height, (ii) the curved surface area and (iii) total surface area of a cone, if its base radius is 12 cm and height is 16 cm. ($\pi = 3.14$)
6. Find the surface area of a sphere, if its volume is 38808 cubic cm. ($\pi = \frac{22}{7}$)
Given: Volume of sphere = 38808 cubic cm.
To find: Surface area of sphere
7. In the given figure, measures of some angles are shown. Using the measures find the measures of $\angle x$ and $\angle y$ and hence show that line $l \parallel$ line m .



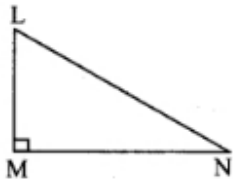
8. If $\cos \theta = \frac{15}{17}$, then find $\sin \theta$.
9. Construct $\triangle PQR$, in which $PQ - PR = 2.4$ cm, $QR = 6.4$ cm and $\angle PQR = 55^\circ$.

Question 5

*** Solve the following Question**

[20]

1. Mr. Manohar gave 20% of his income to his elder son and 30% to his younger son. He gave 10% of the balance income as donation to a school. He still had ₹ 1,80,000 for himself. What was Mr. Manohar's income ?
2. In right angled $\triangle LMN$, if $\angle N = \theta$, $\angle M = 90^\circ$, $\cos \theta = \frac{24}{25}$, find $\sin \theta$ and $\tan \theta$.
Similarly, find $(\sin^2 \theta)$ and $(\cos^2 \theta)$



3. To make an open fish tank, a glass sheet of 2 mm gauge is used. The outer length, breadth and height of the tank are 60.4 cm, 40.4 cm and 40.2 cm respectively. How much maximum volume of water will be contained in it ?

Given: Thickness of the glass = 2 mm,

outer length of the tank = 60.4 cm,

outer breadth of the tank = 40.4 cm,

outer height of the tank = 40.2 cm

To find: Volume of water fish tank contains

4. Construct $\triangle LMN$, in which $\angle M = 60^\circ$, $\angle N = 80^\circ$ and $LM + MN + NL = 11$ cm.
