

Std VII and VIII MAT 2020 Practice Test

1

Simplify : $6 - \{6 - 6(6 + 6) \div 6\}$

- (A) 6 (B) 12
(C) 18 (D) 0

2

Find the G.C.D. of 0.4, 0.06, 0.11

- (A) 0.1 (B) 0.4
(C) 0.04 (D) 0.01

3

Find ratio of 3 hrs. 30 min. to 5 hrs. 45 min.

- (A) 14 : 23 (B) 21 : 34
(C) 3 : 5 (D) 1 : 15

4

20% of 100 + 50% of 40 + 60% of 70 = ?

- (A) 82 (B) 130
(C) 70 (D) 65

5

If a man incurs 12.5% loss, then ratio of sell price to cost price is

- (A) 5:4 (B) 4:5
(C) 7:8 (D) 8:7

6

The difference in simple interest and compound interest on a certain sum of money in 2 years at 10% p.a. is ₹ 50. Find the sum (₹)

- (A) 9000 (B) 6000
(C) 5000 (D) 2000

7

A car goes from A to B with an average speed of 60 km/hr. The journey takes 30 hrs. It returns from B to A with an average speed of 40 km/hr. Find average speed of the car during the round trip in km/hr.

- (A) 50 (B) 55
(C) 52 (D) 48

8

An aeroplane covers a certain distance at a speed of 200 kmph in 6 hrs. To cover the same distance in 100 minutes its speed should be (kmph)

- (A) 600 (B) 720
(C) 300 (D) 360

9

'A' can do a work in 8 days and 'B' in 12 days. If they work on it together for 4 days, then what part of the work is left?

- (A) 1/6 (B) 3/20
(C) 5/6 (D) 17/20

10

$$\frac{\sqrt{625}}{\sqrt{121}} \times \frac{14}{\sqrt{25}} \times \frac{11}{\sqrt{196}} =$$

- (A) 25 (B) 14
(C) 5 (D) 196

11

Simplify : $(243)^{3/5} \times (625)^{1/4}$

- (A) 15 (B) 45
(C) 225 (D) 135

12

Find the factors of $a^6 - 81$.

- (A) $(a - 3)^3 (a + 3)^3$ (B) $(a^2 - a) (a^3 + a)$
(C) $(a^3 - 9) (a^3 + 9)$ (D) None

13

At present A's age is $3/4^{\text{th}}$ of B's age. After 7 years, B's age will be 35 years. What is the age of A at present in years?

- (A) 28 (B) 21
(C) 19 (D) 12

14

Simplify : $\left[(\sqrt{3}) - (1/\sqrt{3}) \right]^2$

- (A) 1.33 (B) 3.33
(C) $1/\sqrt{3}$ (D) $\sqrt{3}$

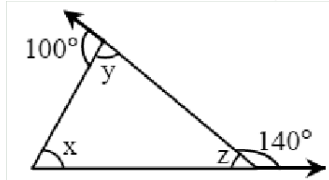
15

Let $\angle B = x/2$ and measure of complimentary angle of B is 54° . Find value of x.

- (A) 72° (B) 36°
(C) 126° (D) 63°

16

Find measure of $x - y + z$ from the figure.



- (A) 60°
(B) 45°
(C) 20°
(D) 40°

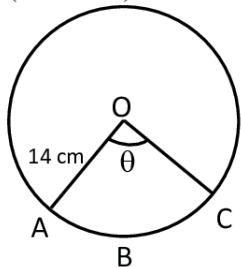
17

If a person walks at 12 km/hr. instead of 8 km/hr. he will walk 16 km. more. Find distance travelled by him at 8 km/hr in km.

- (A) 28 (B) 32
(C) 24 (D) 48

18

In the figure, if area of sector O-ABC is 154 cm^2 , value of θ is
($\pi = 22/7$)



- (A) 90°
(B) 60°
(C) 30°
(D) 45°

19

If volume of a cone is 1078 cm^3 and height is 21 cm, then slant height in cm is ($\pi = 22/7$)

- (A) 49 (B) 7
(C) $10\sqrt{7}$ (D) $7\sqrt{10}$

20

If the square of the hypotenuse of an isosceles right angled triangle is 128 cm^2 . Find length of each of equal sides (in cm).

- (A) 4 (B) 16
(C) 8 (D) none

21

Find the measure of each interior angle of a regular polygon having 15 sides.

- (A) 156° (B) 120°
(C) 24° (D) none

22

If $x - (1/x) = 2\sqrt{2}$, then $x^3 - (1/x^3) = ?$

- (A) $18\sqrt{2}$ (B) $22\sqrt{2}$
(C) 16 (D) $10\sqrt{2}$

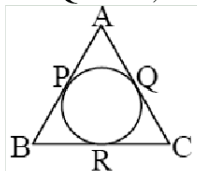
23

Find capacity of a cylindrical tank (in litre) with radius of base 3.5 m and height 10 m.

- (A) 385000 (B) 38500
(C) 3850 (D) Any other

24

Tangents drawn from points A, B, C touch the circle at points P, Q, R. If $AQ = 4.5$, $CR = 3.5$ and $BP = 2.5$, then find perimeter of $\triangle ABC$.



- (A) 28
(B) 18
(C) 10.5
(D) 21

25

If ratio of two numbers is 11:10 and their H.C.F. is 15, then find L.C.M.

- (A) 315 (B) 1650
(C) 875 (D) 1250

26

If measure of each interior angle of a regular polygon is 135° and length of each side of the polygon is 5.5 cm, then its perimeter in cm. is

- (A) 44 (B) 22
(C) 49.5 (D) 25.5

27

Which of the following ratio is same as $(243)^{2/5} : 27$?

- (A) 1:9 (B) 1:3
(C) 1:27 (D) none

28

The population of a town increases at 15% p.a. If present population is 62,500, then after two years population will be (in thousands)

- (A) 60 (B) 70
(C) 57 (D) 82.656

29

A real estate agent sells two sites for ₹ 75000 each. On one he gains 22% and on the other he loses 22%. What is his loss or gain percent?

- (A) 4.84% gain
(B) 4.84% loss
(C) no profit no loss
(D) none

30

A man spends 30% of his income on food, 20% on children's education and 70% of the remaining on house rent. What percent of his income he is left with?

- (A) 8% (B) 12%
(C) 15% (D) none

31

A group consists of 2 old persons, 2 young persons and 3 children. The average age of the old persons is 62 years, that of young persons is 32 years and that of children is 4 years. What is the average age of the group in years?

- (A) $21\frac{4}{7}$ (B) $28\frac{4}{7}$
(C) $32\frac{2}{3}$ (D) none

32

A boat can travel with a speed of 12 km/hr. in still water. If the speed of the stream is 4 km/hr., find time taken by the boat to go 64 km downstream.

- (A) 4 hrs. (B) 3 hrs.
(C) 5 hrs. (D) 2 hrs.

33

A pipe can fill the tank in 4 hrs. But due to leak at the bottom, it takes 6 hrs. When the tank is full, in how many hours will it be emptied due to leak only?

- (A) 6 (B) 15
(C) 10 (D) 12

34

Find the least number by which 750 should be multiplied, so that it becomes a perfect cube.

- (A) 6 (B) 18
(C) 36 (D) 108

35

$6^2 \cdot (216)^m \cdot 5^n = (30)^8$, then $m + n =$ ($m, n \in \mathbb{N}$)

- (A) 13 (B) 10
(C) 30 (D) none

36

Simplify : $\frac{x^3 - 125}{x^2 + 5x + 25} = ?$

- (A) $x + 25$ (B) $x + 5$
(C) $x - 5$ (D) $x - 25$

37

$$\frac{2}{(1/x)} - \frac{3}{(1/x)} = -5, \text{ then } x = ?$$

- (A) -1 (B) 1
(C) -5 (D) 5

38

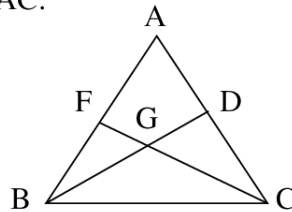
Evaluate : $(\sqrt{2}a + \sqrt{3}b)^2 - (\sqrt{2}a - \sqrt{3}b)^2$

- (A) $4\sqrt{6} ab$ (B) $12 ab$
(C) $2\sqrt{3} ab$ (D) $3\sqrt{2} ab$

39

In $\triangle ABC$, medians BD and CF intersect at G . If $BD = 8$ cm and $CF = 12$ cm, then find ratio of AB to AC .

- (A) 3:2
(B) 2:3
(C) 1:3
(D) 3:1



40

How many squares of length 5 cm are required to cover the surface of a rectangle of length 25 cm and width 15 cm?

- (A) 15 (B) 25
(C) 5 (D) 20

41

If six cubes of 8 cm edge are joined end to end, then find the surface area (in sq. cm) of the resulting solid.

- (A) 512 (B) 832
(C) 1664 (D) 1024

42

Two circles with centres P and Q having different radii intersect each other at points A and B . Find the type of $\square APBQ$ so formed.

- (A) Square (B) Parallelogram
(C) Rectangle (D) Kite

43

If the numerator of a fraction is increased by 10% and its denominator is decreased by 6%, then the value of the fraction is $\frac{33}{47}$. Find the original fraction.

- (A) $\frac{3}{5}$ (B) $\frac{43}{53}$
(C) $\frac{23}{37}$ (D) $\frac{13}{11}$

44

If $\frac{a}{2} = \frac{b}{3} = \frac{c}{5}$, then $\frac{a+b+c}{c} = ?$

- (A) $\frac{1}{2}$ (B) 2
(C) 3 (D) $\frac{1}{5}$

45

Three numbers are in the ratio 2:3:4 and their L.C.M. is 72. Find their H.C.F.

- (A) 6 (B) 24
(C) 18 (D) 12

46

If $x = 8 - \sqrt{48}$, then find $\sqrt{x} + \sqrt{2}$

- (A) $\sqrt{8} - \sqrt{6}$ (B) $\sqrt{12} - \sqrt{4}$
(C) $\sqrt{6}$ (D) $\sqrt{2}$

47

If circumference of a circle is increased from 3π to 5π , then percentage increase in area is

- (A) $70\frac{7}{9}\%$ (B) $177\frac{7}{9}\%$
(C) 25% (D) Any other

48

Let n be a natural number such that $n = 6k + 5$, where $k \in \mathbb{N}$. When n^2 is divided by 6, the remainder will be

- (A) 5 (B) 4
(C) 0 (D) 1

49

Find the sum of all even numbers from 101 to 899.

- (A) 200400 (B) 199500
(C) 200000 (D) 199880

$$\frac{1}{\sqrt{3}-\sqrt{2}} - \frac{1}{\sqrt{4}-\sqrt{3}} + \frac{1}{\sqrt{5}-\sqrt{4}} - \frac{1}{\sqrt{6}-\sqrt{5}} + \frac{1}{\sqrt{7}-\sqrt{6}} - \frac{1}{\sqrt{8}-\sqrt{7}} = ?$$

- (A) $\sqrt{2}$ (B) $-\sqrt{2}$
(C) $2-\sqrt{2}$ (D) $-\sqrt{8}$