# ©゙" doubtnut 

India's Number 1 Education App

## MATHS

## BOOKS - UNITED BOOK HOUSE

## KANACHI HIGH SCHOOL

Exercise

1. Compound interest and simple interest of
sun of money at the same rate of interest per
annum are equal in
A. 1 years
B. 2 years
C. 3 years
D. 4 years

## Answer:

## D Watch Video Solution

2. If the product of two roots of the equation
$x^{2}-3 x+k=10$ is -2 then $\mathrm{k}=$
A. -2
B. -8
C. 8
D. 12

## Answer:

## D Watch Video Solution

## 3. ABCD is a cyclic quadrilateral. If $\angle A=100^{\circ}$

then $\angle C=$
A. $50^{\circ}$
B. $200^{\circ}$
C. $80^{\circ}$
D. $180^{\circ}$

## Answer:

## D Watch Video Solution

4. If the length of the shadow of a vertical pole
on the horizontal grounds is $\sqrt{3}$ times its
height, then the angle of elevation of the sun
is
A. $30^{\circ}$
B. $45^{\circ}$
C. $60^{\circ}$
D. $90^{\circ}$

Answer:

- Watch Video Solution

5. If the numerical values of volume and curved
surface area of a sphere are equal, then the length of its diameter is
A. 3 unit
B. 6 unit
C. 9 unit
D. 8 unit

## Answer:

D Watch Video Solution
6. If the mean of $6,7, x, 8, y, 16,16$ is 9 , then.

> A. $x+y=21$
> B. $x+y=19$
> C. $x=y=21$
> D. $x-y=19$

Answer:

D Watch Video Solution

## 7. If the total interest of some money in y years

 at the rate of simple interest $\mathrm{x} \%$ per annum isRs $\frac{P y x}{25}$, then the principal becomes

## - Watch Video Solution

8. Fill in the blanks

Condition of two equal roots which are in opposite in sign of the equation $a x^{2}+b x+c=0$ is $\qquad$

## 9. Fill in the blanks

Circumradius of a right angled triangle is half of its

- Watch Video Solution

10. Fill in the blanks

If $\sin \theta+\operatorname{cosec} \theta=2$, then $\cos \theta=$

D Watch Video Solution
11. The volume of a solid sphere of diameter $R$ is

## D Watch Video Solution

12. Fill in the blanks

Mode of $8,10,8,8,3,2,1,3,2,8,10,8$ is $\qquad$
( Watch Video Solution
13. Write True or False

In a partnership business, profit share will be
distributed by the ratio of their capitals.

## - Watch Video Solution

14. $x^{3} y, x^{2} y^{2}$ and $x y^{3}$ are in continued proportion or not.

## - Watch Video Solution

15. If two circles of radii 7 cm and 3 cm touch
each other extermally, then the distance between their centres will be 4 cm .
16. Write True or False

If $0^{\circ} \leq \theta \leq 90^{\circ}$ then $\cos \theta>\cos ^{2} \theta$.

## D Watch Video Solution

17. Write True or False

If the length of radius of a cylinder is half then
the volume of its will be half of its previous
volume.

## Watch Video Solution

18. Write True or False

If the mean of frequency distribution is 10
$\sum f_{i} u_{i}=200$ then total frequeny is 20.

## - Watch Video Solution

19. If the compound interest of some money
for 2 years at the rate of compound interest
$5 \%$ per annum is Rs 615, then find the invested money.

## - Watch Video Solution

20. In a partnership business Ram and Hori invest Rs 1,200 \& Rs 800 respectively. At the end of the year if the profit share of Hari is Rs 120 then find the profit share of Ram.

## - Watch Video Solution

21. What should subtracted from each element of 5:7 to make the result 2:3.
22. If $x \propto y, y \propto z$ and $z \propto x$, find the product of three variation constant.

## - Watch Video Solution

23. If the length of the diagonals of a rhombus are 24 cm and 10 cm then the perimeter of it is

## - Watch Video Solution

24. Two chords $A B$ and $A C$ of a circle are mutually perpendicular to each other. If $A B=4$ cm and $A C=3 \mathrm{~cm}$, find the length of the radius of the circle.

## D Watch Video Solution

25. If $r \cos \theta=3$ and $r \sin \theta=\sqrt{3}$ then find the value of $r$ and $\theta$.

## D Watch Video Solution

26. If the ratio of three consequctive angles is

1:2:3 then find the value of 1st and 3rd angle.

## - Watch Video Solution

27. In right angled triangle $A B C, \angle B$ is right
angle. If $A B=8 \sqrt{3} \mathrm{~cm}$ and $\mathrm{BC}=8 \mathrm{~cm}$, then find the value of $\angle A C B$ and $\angle B A C$.

## - Watch Video Solution

28. If the volume, base area and height of a right circular cone are V cu unit, A sq.unit ant H unit respectively, then find the value of $\frac{A H}{V}$.

## D Watch Video Solution

29. If each edge of a cube is increased by $50 \%$,
then how much the total surface area of the
cube will be increased in percent?

## D Watch Video Solution

30. If $u_{i}=\frac{x_{i}-25}{5}, \sum f_{i} u_{i}=20$ and
$\sum f_{i}=100$ then find the value of $\bar{x}$.

## D Watch Video Solution

31. At the same rate of simple interest in
percent per annum, if a principal becomes are amount of Rs 7100 in 7 yrs and of Rs 6200 in 4
yrs, then find the principal and rate of simple interest in percent per annum.
32. Pradipbabu and Aminabiib started a business jointly by investing Rs 24,000 and Rs 30,000 respectively at the beginning of the year. After 5 months pradipbabu invested Rs 4000 more. At the end of the year, if the total profit was Rs 27,716 then find the profit sphere of each of them.

## D Watch Video Solution

33. 

Solve:
$\frac{1}{a+b+x}=\frac{1}{a}+\frac{1}{b}+\frac{1}{x}, x \neq 0,-(a+b)$

D Watch Video Solution
34. If 5 times of a positive whole number is less by 3 than twice of its square, then find the numbers?

D Watch Video Solution
35. If $x=\frac{\sqrt{7}+\sqrt{3}}{\sqrt{7}-\sqrt{3}}$ and $\mathrm{xy}=1$, show that
$\frac{x^{2}+x y+y^{2}}{x^{2}-x y+y^{2}}=\frac{12}{11}$

## D Watch Video Solution

36. If a $\alpha b$ and $b \alpha c$, show that $a^{3}+b^{3}+c^{3} \alpha 5 a b c$.

## D Watch Video Solution

37. If $\frac{a^{2}}{b+c}=\frac{b^{2}}{c+a}=\frac{c^{2}}{a+b}=1$, show
that $\frac{1}{1+a}+\frac{1}{1+b}+\frac{1}{1+c}=1$

## - Watch Video Solution

38. If $\frac{x}{l m-n^{2}}=\frac{y}{m n-l^{2}}=\frac{z}{n l-m^{2}}$, then
show that $1 x+m y+n z=0$

D Watch Video Solution
39. Answer any One queation : Prove that, if a perpendicular is draw on the hypotenuse from
the right angled triangle, two triangles so formed on the two sides of the perpendicular are each similar to the original triangle and also similar to each other.

## D Watch Video Solution

40. Prove that if two tangents are drawn to a
circle from a point outside it, then the line
segments joining the point of contacts and the exterior point are equal.

## D Watch Video Solution

41. $A B C D$ is a cyclic quadrilaterla. Extended $A B$ and $D C$ intersect at $P$. Prove that $P A . P B=P C . P D$.

## D Watch Video Solution

42. A straight line intersects one of the two
concentric circles at the points $A$ and $B$ and
other at the points $C$ and $D$. Prove that $A C=$ BD.

## D Watch Video Solution

43. Draw the incircle of an equilateral triangle of side 7 cm .

## D Watch Video Solution

44. Geometrically find the value of $\sqrt{21}$,

D Watch Video Solution
45. Sum of two angles is $135^{\circ}$ and their difference is $\frac{\pi^{c}}{12}$. Find the sexagicimal and circular values of these two angles.

## D Watch Video Solution

46. If $\sin \theta+\sin ^{2} \theta=1$, prove that $\cos ^{2} \theta+\cos ^{4} \theta=1$.
47. 

$\tan 30^{\circ}+y \cot 60^{\circ}=0,2 x-y \tan 45^{\circ}=1$,
then find the value of $x$ and $y$.

## - Watch Video Solution

48. The height of two towers are 180 metres
and 60 metres respectively. If the angle of elevtion of the top of the 1st tower from the
foot of the 2 nd tower is $60^{\circ}$, then calculate
what is the angle of elevation of the top of the
2nd tower from the foot of the first?
49. A telegraph post is bent at a point above the ground due to storm. Its top just meets the ground at a distance of $8 \sqrt{3}$ metres from its foot and makes an angle of $30^{\circ}$. Calculate at what heigh the post is bent and what is the height of the post.
50. The length of radius of cross-section of a solid circular rod is 3.2 dcm . By melting the rod

21 solid sphere are made. If the radius of the sphere is 8 cm , then find the length of the rod.

## D Watch Video Solution

51. The ratio of length breadth and height of a
cuboid is 3:2:1 and its volume is 384 cc , then
find the total surface area of a cuboid.
52. Three spheres made of copper having the lengths of 3 cm .4 cm and 5 cm radii are melted and large sphere is made Calculate the length of radius of large sphere.

## - Watch Video Solution

53. Ages of 100 patients in a hospital of Mahidual's locaity are given below. Find the

## mean age of them.

| Age (years) | $10-20$ | $20-30$ | $30-40$ | $40-50$ | $50-60$ | $60-70$ |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| No. of patients | 12 | 8 | 22 | 20 | 18 | 20 |

## D Watch Video Solution

54. Find the median of heights of the students
from the following frequency distribution.

| Heighs (cm) | $135-140$ | $140-145$ | $145-150$ | $150-155$ | $155-160$ | $160-165$ | $165-170$ |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. of students | 6 | 10 | 19 | 22 | 20 | 16 | 7 |

- Watch Video Solution

55. Calculate the mode of the following
frequency distribution table.

| Class | $0-5$ | $5-10$ | $10-15$ | $15-20$ | $20-25$ | $25-30$ | $30-35$ |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| fręquency | 5 | 12 | 18 | 28 | 17 | 12 | 8 |

## D Watch Video Solution

