

27.01.20

EVERWIN VIDHYASHRAM

STD: IX(Girls)

TT -Mathematics

Marks:25

I. Answer the following:

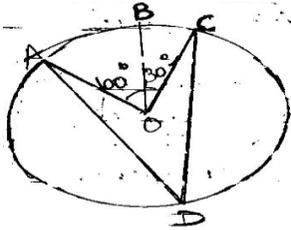
4x1=4

1. Angles in the same segment of a circle are -----
2. The sum of either pair of opposite angles of a cyclic quadrilateral is -----
3. Angles in a semicircle is a -----angle.
4. Chords ----- from the centre of a circle are equal.

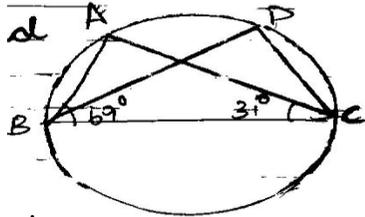
II. Answer the following:

2x2=4

5. A, B and C are three points on a circle with centre O. Such that $\angle BOC=30^\circ$ and $\angle AOB=60^\circ$. If D is point on the circle other than the arc ABC, find $\angle ADC$.



6. $\angle ABC=69^\circ$, $\angle ACB=31^\circ$ find $\angle BDC$.



III. Answer the following:

3x3=9

7. A chord of a circle is equal to the radius of the circle. Find the angle subtended by the chord at a point on the minor arc and also at a point on the major arc.
8. Prove that a cyclic parallelogram is a rectangle.
9. ABCD is a cyclic quadrilateral with $AD \parallel BC$. If $\angle B=70^\circ$, determine other 3 angles.

IV. Answer the following:

2x4=8

10. ABCD is a cyclic quadrilateral. If AC bisects both the angles A and C then prove that $\angle ABC=90^\circ$.
11. Two circles of radii 5cm and 3cm intersect at two points and the distance between their centres is 4cm. Find the length of the common chord.

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STD: IX(Boys)

TT -Physics

Marks:25

I. Answer in one word:

1x5=5

1.what is power?

2.Define average power.

3. The law of conservation of energy, -----can only be transformed from one form to another.

4.The energy possessed by a body due to its change in position or shape is called the

5.The gravitational potential energy of an object of mass, raised through a height, h from the earth's surface is given by

II. Answer in brief.

3x5=15

1. Find the energy possessed by an object of mass 12 kg when it is at a height of 8 m above the ground. Given, $g = 10 \text{ m/s}^2$.

2. An object of mass 12 kg is at a certain height above the ground. If the potential energy of the object is 480 J, find the height at which the object is with respect to the ground. Given, $g = 10 \text{ m/s}^2$.

3. A boy of mass 50Kg runs up a staircase of 45 steps in 9s. If the height of each step is 15cm. Find his power. $g = 10 \text{ m/s}^2$

4. An electric heater is rated 2000 W. How much energy does It use in 10 hours?

5. A certain household has consumed 350 units of energy during a month. How much energy is this in joules?

III. Answer in detail.

1x5=5

1. Two girls, each of weight 400N climb up a rope through a height of 8m. We name one of the girls A and the other B. Girl A takes 20 s while B takes 50 s to accomplish this task. What is the power expended by each girl?