

AbuneGorgorios Schools

Name_____

No _____ **Subject:-**

mathematics 20%

2012 E.C. second semester **Grade 10** **Section** _____

no

2012EC SECOND SEMESTER MATHEMATICS WORK SHEET 3 FOR GRADE 10

I. Write true if the statement is correct and write false If the statement is incorrect.

_____1. The altitude of a triangle are con-current .

_____2. In aright angled triangle ABC with altitude CD to the hypotenuse AB then $\frac{AD}{DC}$ $=\frac{CD}{DB}$.

_____3. The median of a triangle concurrent at a point $\frac{2}{3}$ of the distance from each vertex to the median point of the opposite side .

_____4. An angle inscribed in arc less than a semi circle is acute angle .

_____5. Ever quadrilaterals are regular polygon.

II. Choose the correct Answer from the given alternative

_____6 The area of hexagon is $96\sqrt{3}$ cm then which one of the following is its perimeter?

A. 48cm B. 54 cm C. 42cm D, 60cm

_____ 7. which one of the following is not true about rhombus?

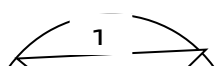
A. Rhombus is an equilateral quadrilateral.

B .the diagonal of rhombus bisect each other perpendicularly

C, opposite side of rhombus are parallel

D. the consecutive angles of rhombus are not supplementary.

_____8. In figure below a circle with center o and radius 1cm is given .AB is chord of length 1cm .then what is the area of the segment ACB .



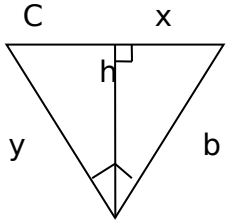
A 1 B A. ($\frac{\pi}{6}$-$\frac{1}{8}$) cm^2B. ($\frac{\pi}{6}$-$\frac{\sqrt{3}}{4}$)cm^2 C, ($\frac{\pi}{3}-\frac{\sqrt{3}}{4}$¿$cm^2$D. ($\frac{\pi}{3}$ - $\frac{\sqrt{3}}{2}$)cm^2

9 .the area of a triangle with vertices at (-4 ,-1), (1 ,2)and (4 ,-3) is

A 14sq unit B 15squnit C 16sq unit D 17squnit

10. In the figure below ABC is right triangle with lengths b, c , ,x and y. which one of the following is not true .

B



A ($x+y$¿¿^{2}=b^2+c^2 B, ¿= b^2+c^2 E.None

C, b^2=y(x + y) D.c^2 =x(X+Y). A

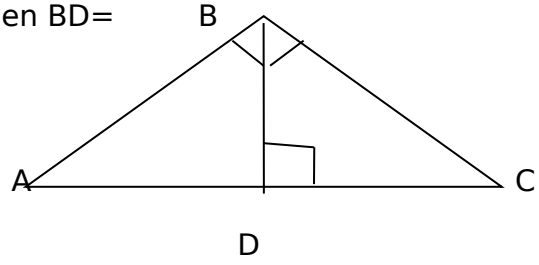
11 Let the medians AA' BB' and CC' of $\triangle$ABC meet at o if AA'=18cm,OB'=7cm and OC' =9cm then what is the length of OA?

A 6cm B 12cm C1 4cm D 18cm

12 In triangle $\triangle$ABC if AB=1ocm BC =12cm and AC =8cm then what is the length of altitude from vertex A ?

A.3$\sqrt{7}$ cm B $5\frac{\sqrt{5}}{2}cm$C$3\frac{\sqrt{7}}{8}$ cm D none B

13. In figure below AC =6cm ,DC =4cm then BD=



A. $2\sqrt{2}cm$B.$\sqrt{2}cm$

C , $\sqrt{3}cm$ D.$3\sqrt{3}$ cm A

14.Arectangle 0f length 4annd 3 units has one vertex at the origin of a system axes and another vertex on a quarter of a circle whose center is also at the origin. What is the shaded area?

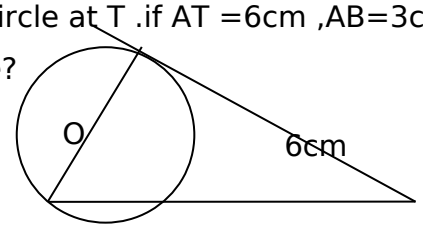
A .12sq.unit B. $\frac{25\pi}{4} sq.unit,$ C.$\frac{25\pi-48}{4} sq.unit$ D

.$\frac{48-25\pi}{4} sq.unit$

15 ,A circles tangent to each other and to larger circle , have their centers on the diameter AB of the larger circle . the larger circle has a radius of 3 cm , what is the sum of the perimeter of the three small circle ?

A ,3πcm B. 6πcm C .9πcm **D .2πcm**

16.In the figure $\overline{CT}$ is the diameter of the circle with center O and AT is tangent to the circle at T .if AT =6cm ,AB=3cm ,then what is the length of the diameter of a circle?

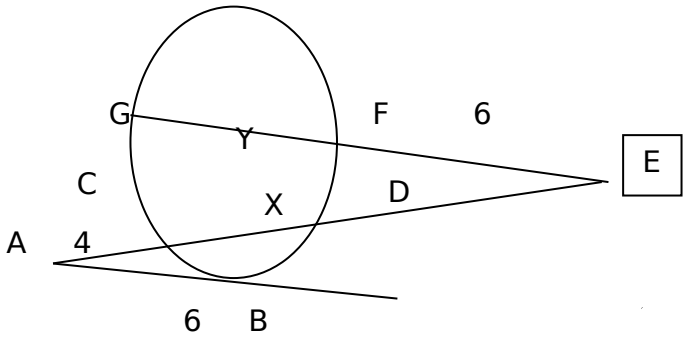


C 3cm A

B

A .9cm B .5cm C$6\sqrt{3}cm$D.$6\sqrt{2}cm$

17In figure below what is the value of X and Y respectively?.

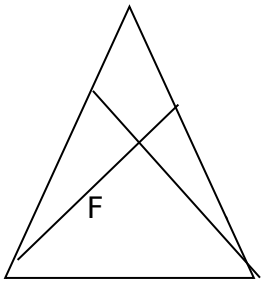


A. 3 and4 B. 5and$\frac{7}{3}$C. $\frac{7}{3}$ and5 D. 4and5

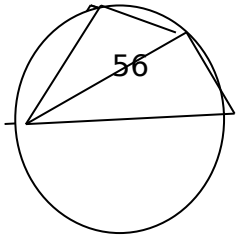
Direction III. Solve the following question (show all necessary steps)1pt each.

18.In ABCD is a square of side a unit and the arcs are quarter of a circle inscribed in a quadrilateral. Then find the shaded area .

19.In figure below AD=DC ,AE=EB F is the intersection of CE and BD . prove that EF=$\frac{1}{2}$EC.



20. PQRST in figure below the quadrilateral inscribed in the Sami circle assuming that measure of angle ¿PQT is equal to 56°.then find m (¿TRQ).



Remark| This work sheet includes all chapter 6 (227-267)

PLANE FIGURE

- **triangle**
- **properties of quadrilateral**
- **median of triangle**
- **area and perimeter of triangle**

- **Altitude of triangle**
- **area and perimeter of regular polygon**

Set by

Abebe m. (aware B)

- **Quadrilateral**