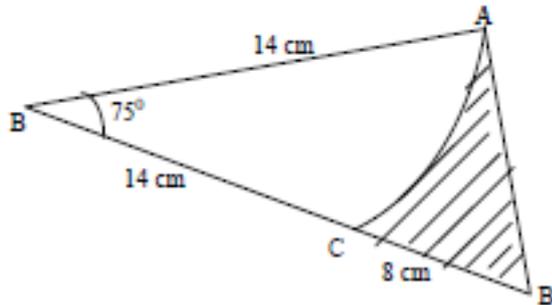


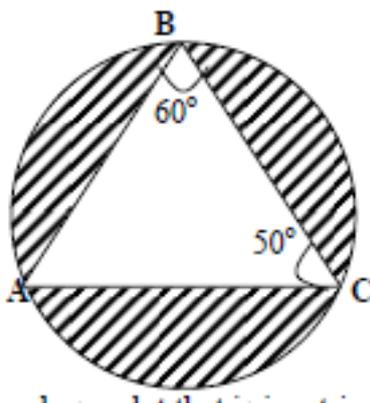
Area Questions and Answers - Form 1 Topical Mathematics

Questions

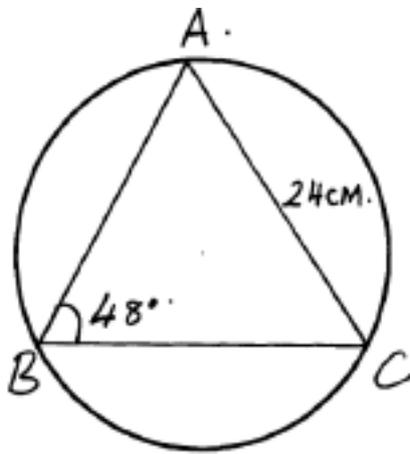
1. Calculate the area of the shaded region below, given that AC is an arc of a circle centre B. $AB=BC=14\text{cm}$ $CD=8\text{cm}$ and angle $ABD = 75^\circ$ (4 mks)



2. A student took the measurements of his classroom and gave the width as 7m and the length as 9m. If there is an error of 2% in each measurement, determine the greatest value of $\frac{(x+y)}{x}$ if x and y are the width and length of the classroom respectively. Give your answer to 4 decimal places.
3. The floor of a room is in the shape of a rectangle 10.5 m long by 6m wide. Square tiles of length 30 cm are to be fitted onto the floor.
- Calculate the number of tiles needed for the floor.
 - A dealer wishes to buy enough tiles for fifteen such rooms. The tiles are packed in cartons each containing 20 tiles. The cost of each carton is Kshs. 800. Calculate
 - the total cost of the tiles.
 - If in addition, the dealer spends Kshs. 2,000 and Kshs. 600 on transport and subsistence respectively, at what price should he sell each carton in order to make a profit of 12.5%
(Give your answer to the nearest Kshs.)
4. The figure below is a circle of radius 5cm. Points A, B and C are the vertices of the triangle ABC in which $\angle ABC = 60^\circ$ and $\angle ACB = 50^\circ$ which is in the circle. Calculate the area of triangle ABC)



5. Mr.Wanyama has a plot that is in a triangular form. The plot measures 170m, 190m and 210m, but the altitudes of the plot as well as the angles are not known. Find the area of the plot in hectares.
6. A farmer decides to put two-thirds of his farm under crops. Of this, he put a quarter under maize and four-fifths of the remainder under beans. The rest is planted with carrots. If 0.9acres are under carrots, find the total area of the farm
7. Find the area of the circle sector.



Answers

2. M x m value =

$$\frac{2.655 + 6.415}{2}$$

$$6.405 - 2.655$$

$$= 9.07$$

$$3.75$$

$$= 2.4187$$

3.

a. Number of tiles to cover the room =

$$\frac{10.5 \times 6}{0.3 \times 0.3}$$

$$= 700 \text{ tiles}$$

b.

i. 15 x 700 tiles

$$20$$

$$\text{cost} = 525 \times 800$$

$$= \text{Ksh. } 420,000$$

ii. Other expenses = 2000 + 600 = 2600/=

$$\text{Total expenses} = \text{Kshs. } 420,000 + 2600$$

$$= \text{Kshs. } 422600$$

$$\text{Selling price} = \frac{112.5}{100} \times 422600$$

$$= \text{Kshs. } 475,425$$

$$\text{Selling price per tile} =$$

$$\frac{475425}{10}$$

$$525 \times 20$$

$$= 45.27$$

$$= \text{Kshs. } 45.00$$

4. AC = 10 = AC = 8.66

$$\sin 60^\circ$$

$$\angle A 70^\circ, \underline{BC} = 10 = BC = 8.91$$

$$\sin 70^\circ$$

$$\text{Area} = \frac{1}{2} \times 8.66 \times 8.91 \sin 50^\circ$$

$$= 27.28$$

5. S = $\frac{1}{2} (170 + 190 + 210)$

$$S = 285$$