



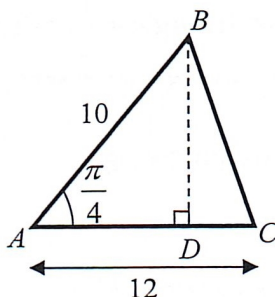
Name: _____ () Class: _____ Date: _____

MA304.3.1 – Area of a Triangle

At the end of this unit, you should be able to

- find the area of a triangle using $\frac{1}{2}ab\sin C$

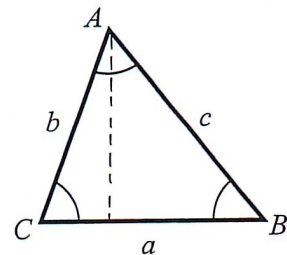
E1. The figure below shows a triangle with the length of two sides given and an angle between the two sides.



(a) Show that the perpendicular distance from B to AC is given by $BD = 10 \sin \frac{\pi}{4}$.

(b) Hence determine the area of the triangle using AC as the base and BD as the height.

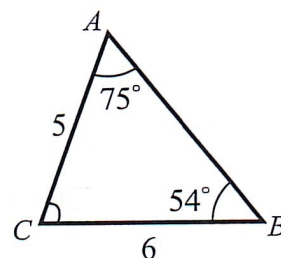
E2. Given the triangle below, show that the area of the triangle is given by $\frac{1}{2}ab \sin C$.



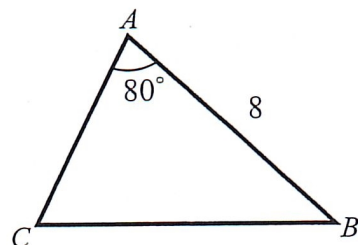
Given any triangle such that two of the sides (a , b) and the angle (C) in between the two sides are given, the area of the triangle is given by

$$\text{Area of triangle} = \frac{1}{2}ab \sin C$$

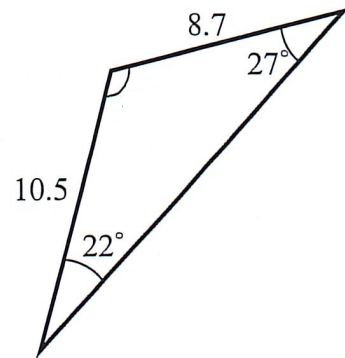
E3. Find the area of the triangle as shown on the right.



P1. Given that the area of the triangle below is 24 units², find the length of AC.

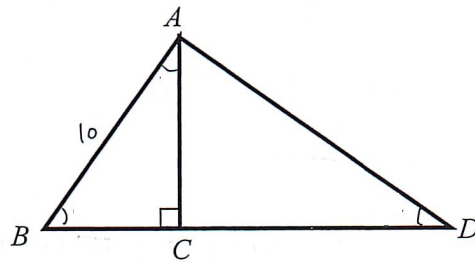


P2. Find the area of the triangle shown on the right.



P3. In the figure, $\triangle ABC$ is similar to $\triangle DAC$. Given that $AB = 10$ cm and $\angle ADC = \frac{\pi}{6}$,

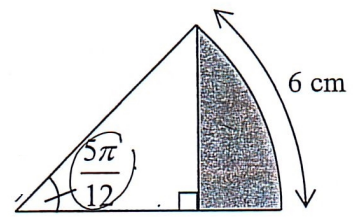
(a) Determine $\angle ABC$.



(b) Find the length of BD .

(c) Hence or otherwise find the area of $\triangle ABD$.

P4. Find the area of the shaded region in the figure on the right.



P5. Find the area of the shaded region in the figure on the right.

