## Tifgonometry (Q 5, Paper 2)

## Lesson No. 5: Cosine Rule

## 2005

5 (b) In the triangle $a b c,|a b|=5 \mathrm{~cm}$ and $|b c|=8 \mathrm{~cm}$. The area of the triangle is $16.58 \mathrm{~cm}^{2}$.
(i) Find $|\angle a b c|$, correct to the nearest degree.
(ii) Find $|a c|$, correct to the nearest centimetre.


## 2003

5 (c) One side of a triangle has length 8 cm and another has length 3 cm .
The angle between these two sides measures $60^{\circ}$.
(i) Find the length of the third side.
(ii) Find the measures of the two remaining angles, correct to the nearest degree.

2001
5 (b) In the triangle $a b c,|a b|=3$ units, $|b c|=7$ units and $|\angle a b c|=67^{\circ}$.
(i) Calculate the area of the triangle $a b c$, correct to one decimal place.
(ii) Calculate $|a c|$, correct to the nearest whole number.


1999
5 (c) Two ships, $A$ and $B$, leave port $k$ at noon.
$A$ is travelling due East and $B$ is travelling East $70^{\circ}$ South, as shown.
Calculate, to the nearest km, the distance between $A$ and $B$ when $A$ is 8 km from $k$ and $B$ is 12 km from $k$.


1997
5 (a) In the triangle $x y z,|x y|=3 \mathrm{~cm}$,
$|y z|=4 \mathrm{~cm}$ and $|\angle x y z|=60^{\circ}$.
Use the cosine rule to find $|x z|$, correct to one place of decimals.
[See Tables, page 9.]


## 1996

5 (c) $x y z$ is a triangle where $|x y|=15 \mathrm{~cm}$, $|y z|=22 \mathrm{~cm}$ and $|\angle x y z|=74^{\circ}$.
Find
(i) $|x z|$, correct to the nearest cm
(ii) $|\angle y x z|$, correct to the nearest degree.


Answers
20055 (b) (i) $56^{\circ}$
(ii) 7 cm
20035 (c) (i) 7 cm
(ii) $22^{\circ}, 98^{\circ}$
20015 (b) (i) 9.7 units $^{2}$
(ii) 6 units
19995 (c) 12 km
19975 (a) 3.6 cm
19965 (c) (i) 23 cm
(ii) $67^{\circ}$

