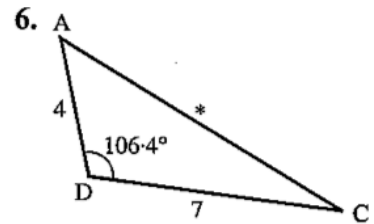
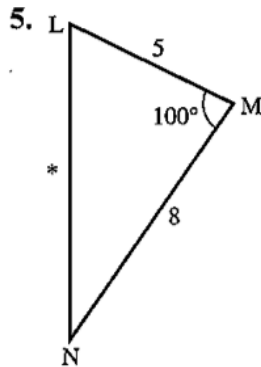
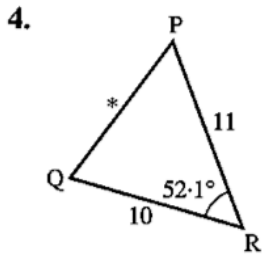
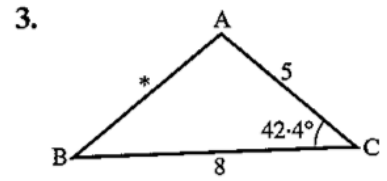
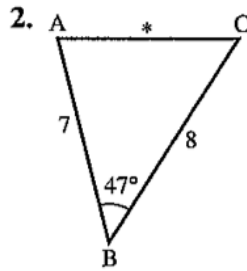
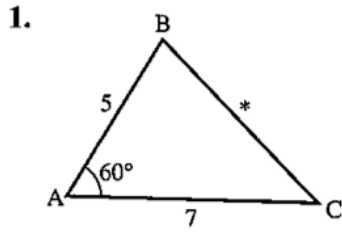


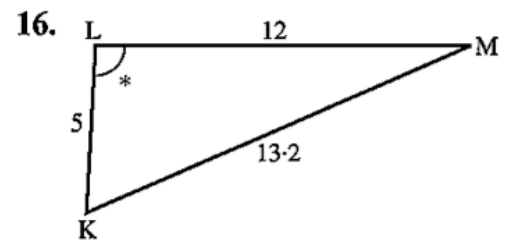
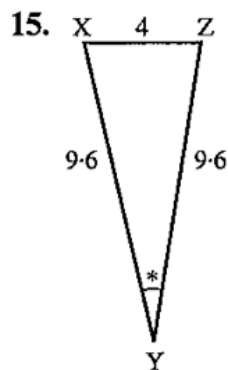
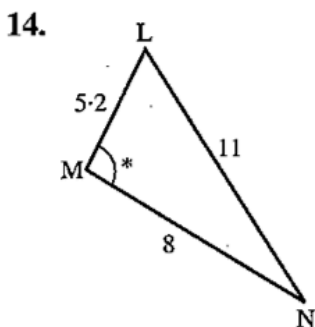
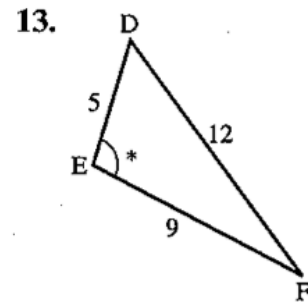
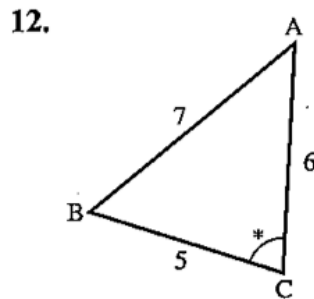
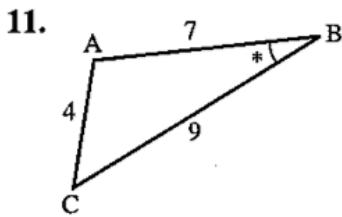
## TS Tuition Math - Hwk #3 - Trigonometry (Ch. 6)

### Exercise 10 - Cosine Rule

Find the sides marked \*. All lengths are in centimetres.

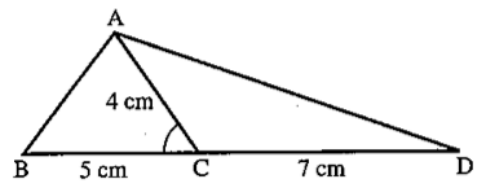


In questions 11 to 16, find each angle marked \*.



**Revision Exercise 6A - Sine Rule and Cosine Rule**

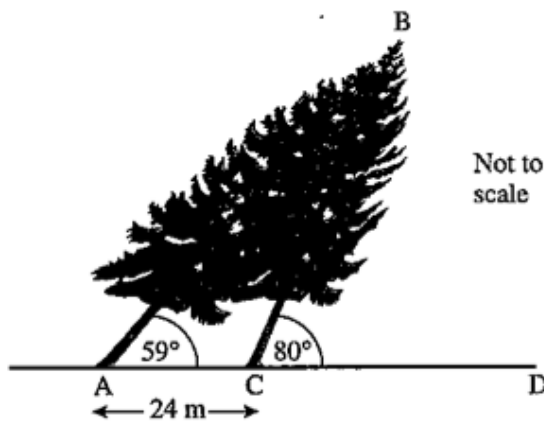
13. Two lighthouses A and B are 25 km apart and A is due West of B. A submarine S is on a bearing of  $137^\circ$  from A and on a bearing of  $170^\circ$  from B. Find the distance of S from A and the distance of S from B.
14. In triangle PQR,  $PQ = 7$  cm,  $PR = 8$  cm and  $QR = 9$  cm. Find angle QPR.
15. In triangle XYZ,  $XY = 8$  m,  $\hat{X} = 57^\circ$  and  $\hat{Z} = 50^\circ$ . Find the lengths YZ and XZ.
16. In triangle ABC,  $\hat{A} = 22^\circ$  and  $\hat{C} = 44^\circ$ .  
Find the ratio  $\frac{BC}{AB}$ .
17. Given  $\cos \hat{C} = 0.6$ ,  $AC = 4$  cm,  $BC = 5$  cm and  $CD = 7$  cm, find the length of AB and AD.



18. Find the smallest angle in a triangle whose sides are of length  $3x$ ,  $4x$  and  $6x$ .

**Examination Exercise 6B - Sine Rule and Cosine Rule**

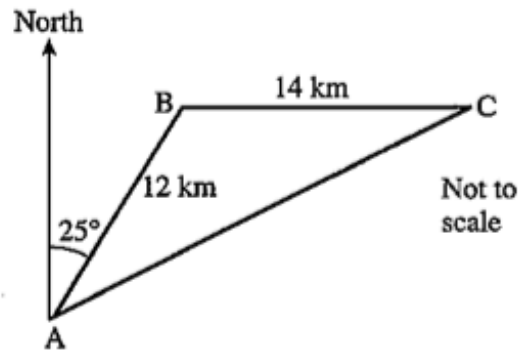
4.



During a storm, a tree, AB, is blown over and rests on another tree CB.  $\hat{BAC} = 59^\circ$ ,  $\hat{BCD} = 80^\circ$ ,  $AC = 24$  m and ACD is horizontal. Calculate the length AB.

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5.



Hussein travels 12 km from A to B on a bearing of  $025^\circ$ .  
 He then travels due East for 14 km to C.

(a) Show that angle ABC is  $115^\circ$ .

(b) Calculate:

- (i) the distance AC,
- (ii) the angle BAC,
- (iii) the bearing of A from C.

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