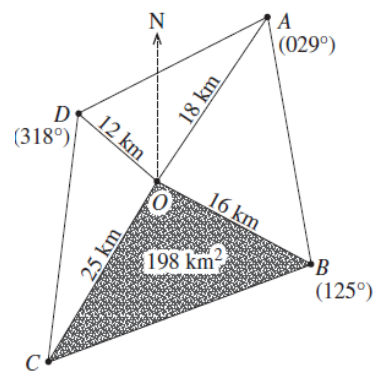


**MA**
SP**21**
Band
3-5

The diagram shows the distances of four towns A , B , C and D from point O . The true bearings of towns A , B and D from point O are also shown. The area of the acute-angled triangle BOC is 198 km^2 . Calculate the true bearing of town C from point O , correct to the nearest degree.

**3**NOT TO
SCALELet $\angle COB = \theta$

$$\text{Area} = \frac{1}{2} \times 25 \times 16 \times \sin \theta = 198$$

$$200 \sin \theta = 198$$

$$\sin \theta = \frac{198}{200}$$

$$\theta = 81.89038554\dots$$

$$= 82 \text{ (nearest whole)}$$

As $125 + 82 = 207$, the bearing is 207° .* These solutions have been provided by [projectmaths](http://projectmaths.com.au) and are not supplied or endorsed by NESA.Looking for **Mathematics Advanced** Topic Revision?Go to our [MathsFit](#) page for downloads – just \$2.95