

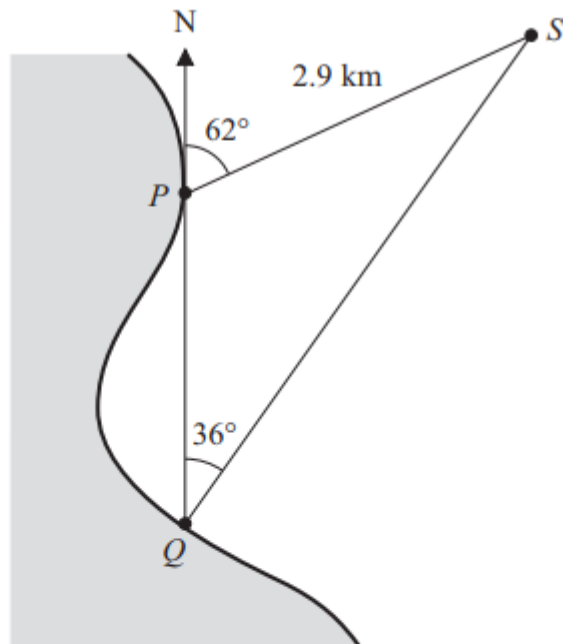
Problem solving using the sine and cosine rule

A LEVEL LINKS

Scheme of work: 4a. Trigonometric ratios and graphs

Practice question

1



P and *Q* are two points on a coast.

P is due North of *Q*.

A ship is at the point *S*.

$PS = 2.9$ km.

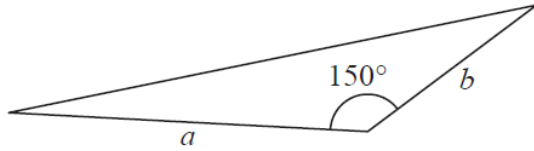
The bearing of the ship from *P* is 062°

The bearing of the ship from *Q* is 036°

Calculate the distance *QS*.

Give your answer correct to 3 significant figures.

2. The diagram shows two triangles, **A** and **B**.



Triangle **A**

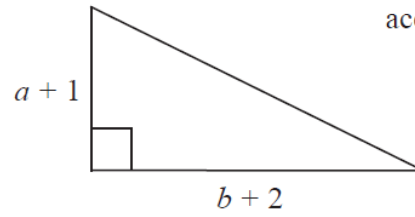


Diagram **NOT**
accurately drawn

Triangle **B**

The area of triangle **B** is 3 times the area of triangle **A**.
Given that $b > 4$, find an expression for a in terms of b .

$a = \dots\dots\dots$

Answer

1 $QS = 4.36$

2 $\frac{2b+4}{b-4}$