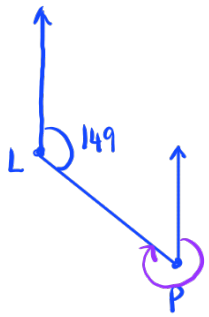
1 The bearing of Paris from London is 149°

Work out the bearing of London from Paris.



$= 360^\circ - (180^\circ - 149^\circ)$ (1)

$= 360^\circ - 31^\circ$

$= 329^\circ$ (1)

329 °

(Total for Question 1 is 2 marks)

2 The diagram shows the positions of three ships, *A*, *B* and *C*.

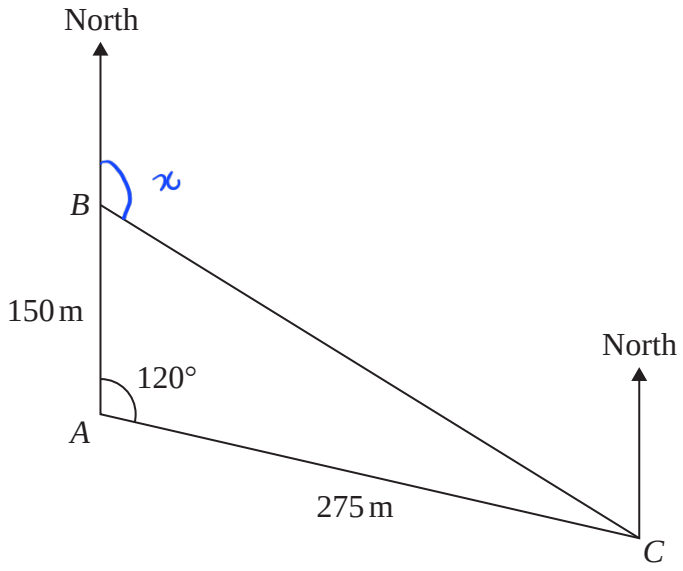


Diagram **NOT** accurately drawn

Ship *B* is due north of ship *A*.

The bearing of ship *C* from ship *A* is 120°

Calculate the bearing of ship *C* from ship *B*.
Give your answer correct to the nearest degree.

$a^2 = b^2 + c^2 - 2bc\cos A$

$BC^2 = (150)^2 + (275)^2 - 2(150)(275)\cos 120°$

$= 139375$ (1)

$BC = \sqrt{139375}$

$= 373.329\ldots$ (1)

$\frac{\sin ABC}{275} = \frac{\sin 120}{373.329\ldots}$ (1)

$\sin \angle ABC = 0.6379\ldots$

$\angle ABC = \sin^{-1}(0.6379\ldots)$

$= 39.6\ldots°$ (1)

$x = 180° - 39.6°$

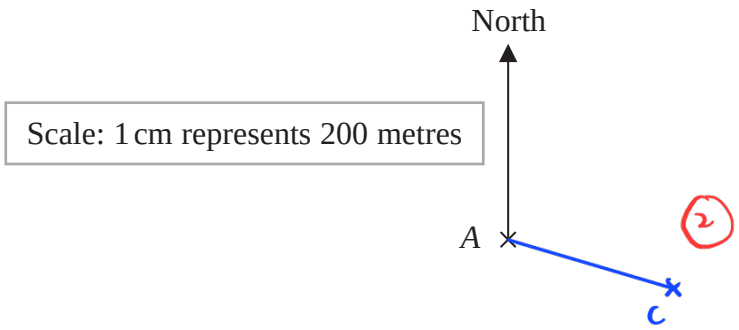
$= 140.4°$

$\approx 140°$ (1)

140 °

(Total for Question 2 is 5 marks)

3 The scale diagram shows the position on a map of a house, *A*



House *C* is on a bearing of 110° from *A*
The distance from *A* to *C* is 700 m

(a) Mark the position of *C* on the diagram with a cross (×)
Label your cross *C*

$\frac{700}{200} = 3.5$ cm

1

(3)

(b) Write the scale of the map in the form 1 : *n*

$n = 200 \text{ m} \times \frac{100 \text{ cm}}{1 \text{ m}}$

$= 20\,000$

1 : 20 000

1

1 : 20 000

(1)

(Total for Question 3 is 4 marks)