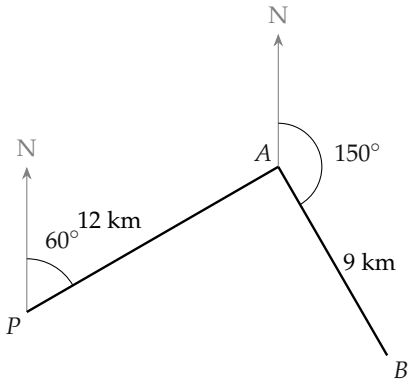
Marked example 3

Paper 2 style · Graphic display calculator

3 7 marks SL 3.2 · 3.3 ●●○ Typical

A ship sails from a port P on a bearing of 060° for 12 km to a point A. It then sails on a bearing of 150° for 9 km to a point B.



(a) Show that $P\hat{A}B = 90°$. [2]

(b) Find the distance PB. [2]

(c) Find the bearing of B from P. [3]

MARKSCHEME (a)

the bearing of P from A is $060° + 180° = 240°$ M1

$240° - 150°$ A1

$P\hat{A}B = 90°$ AG

Total 2 marks

Note Or: co-interior angles on the north lines, $180° - 60° = 120°$, then $120° - 30°$.

MARKSCHEME (b)

$PB^2 = 12^2 + 9^2$ (M1)

$PB = 15$ km A1

Total 2 marks

MARKSCHEME (c)

$\tan A\hat{P}B = \frac{9}{12}$ (M1)

$A\hat{P}B = 36.8699\ldots°$ (A1)

$060° + 36.87° = 096.9°$ A1

Total 3 marks

Note Add the bearing of A: B is clockwise from A.

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