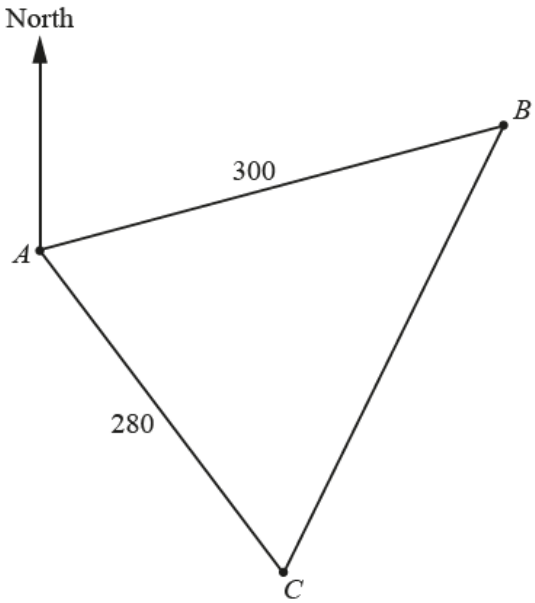
Trigonometry – 2022 O Level Math D

1. June/2022/Paper_21/No.9



NOT TO SCALE

The diagram shows the positions of three towns, A, B and C.
B is on a bearing of 072° from A.
C is on a bearing of 150° from A.
$AB = 300\,\text{km}$ and $AC = 280\,\text{km}$.

(a) Find the bearing of A from C.

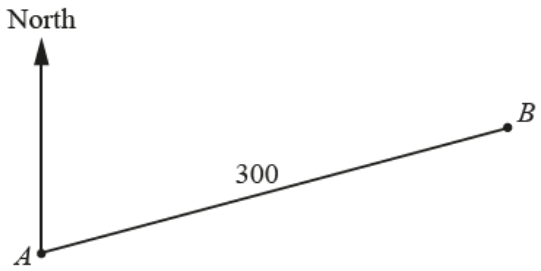
..... [1]

(b) Calculate BC.

$BC =$ ..... km [4]

(c) Town D is 145 km from town B.
Angle ADB is 120°.

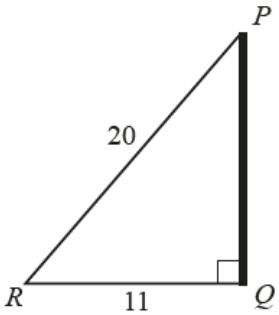
Find the two possible bearings of D from A.
You may add lines to this sketch to help you.



NOT TO SCALE

..... or ..... [5]

2. June/2022/Paper_22/No.9



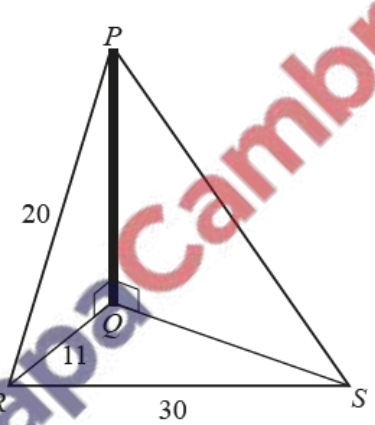
NOT TO SCALE

PQ is a vertical pole.
A rope is attached from the top of the pole, P, to a point on the ground, R.
$PR = 20\,\text{m}$, $RQ = 11\,\text{m}$ and $R\hat{Q}P = 90°$.

(a) Show that $PQ = 16.70\,\text{m}$, correct to 2 decimal places.

[2]

(b)

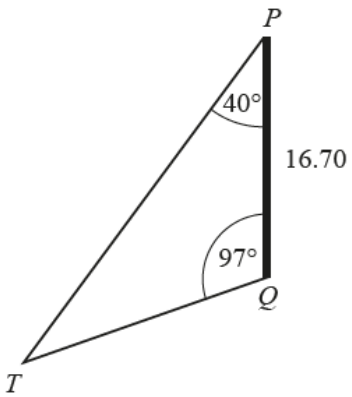


A second rope is attached from P to a point S.
$P\hat{Q}S = 90°$ and $RS = 30\,\text{m}$.
The angle of elevation of P from S is 36°.

Calculate $R\hat{Q}S$.

$R\hat{Q}S =$ ..... [5]

(c)



NOT TO SCALE

A third rope is attached from P to a point T.
$T\hat{P}Q = 40°$ and $P\hat{Q}T = 97°$.

Calculate PT.

$PT =$ ..... m [4]