$P$ 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.
17 A circular clock face, centre $O$, has a minute hand $OA$ and an hour hand $OB$.
$OA = 10$ cm.
$OB = 7$ cm.

Calculate the length of $AB$ when the hands show 5 o'clock.
Give your answer correct to 3 significant figures.
The diagram shows an accurate scale drawing of part of the boundary of a field. The complete boundary of the field is in the shape of a quadrilateral $ABCD$. 

$AB = 300$ metres. 
$BC = 230$ metres. 
Point $B$ is due north of point $C$. 

The scale of the diagram is 1 cm to 50 metres. 

The bearing of $D$ from $C$ is $260^\circ$ 
$AD = 480$ metres. 

Complete the scale drawing of the boundary of the field. Mark the position of $D$. 

North
A, B and C are 3 villages.
B is 6.4 km due east of A.
C is 3.8 km from A on a bearing of 210°

Calculate the bearing of B from C.
Give your answer correct to the nearest degree.
Show your working clearly.
6. \( A \) is the point with coordinates \((4, 1)\)
\( B \) is the point with coordinates \((1, 9)\)

Find the coordinates of the midpoint of \(AB\).

11. Town \( B \) is 35 km east and 80 km north of town \( A \).

Work out the bearing of \( A \) from \( B \).
Give your answer correct to the nearest degree.

Diagram NOT accurately drawn
23

Diagram NOT accurately drawn

A, B and C are points on horizontal ground.
B is due North of A and AB is 14 m.
C is due East of A and AC is 25 m.

A vertical flagpole, TX, has its base at the point X on BC such that the angle AXC is a right angle.

The height of the flagpole, TX, is 10 m.

Calculate the size of the angle of elevation of T from A.
Give your answer correct to 1 decimal place.
7 The diagram shows two points $S$ and $T$. The bearing of $T$ from $S$ is $043^\circ$.

Work out the bearing of $S$ from $T$. 

Diagram NOT accurately drawn
The point $A$ has coordinates $(3, 2)$ and the point $B$ has coordinates $(11, 10)$.

(a) Find the coordinates of the midpoint of $AB$.

(b) Find the coordinates of $C$ and the coordinates of $D$. 

$AB$ is a diameter of a circle.

$CD$ is another diameter of this circle.

$CD$ is perpendicular to $AB$. 

2. The diagram shows two towns, $A$ and $B$, on a map.

(a) By measurement, find the bearing of $B$ from $A$.

(b) $C$ is another town.
   The bearing of $C$ from $A$ is $050^\circ$.
   Find the bearing of $A$ from $C$. 
22. The diagram shows the positions of two ships, A and B, and a lighthouse L.

Ship A is 5 km from L on a bearing of 070° from L.
Ship B is 3 km from L on a bearing of 210° from L.
Calculate the distance between ship A and ship B.
Give your answer correct to 3 significant figures.
3.

The bearing of \( B \) from \( A \) is 062°.
\( C \) is due south of \( B \).
\( AB = CB \).

(a) (i) Find the size of angle \( x \).

(ii) Give a reason for your answer.

........................................................................................................

(b) Work out the bearing of \( C \) from \( A \).
2. The diagram shows two towns, $A$ and $B$, on a map.

(a) Measure the bearing of $B$ from $A$.

(b) $C$ is another town.
The bearing of $C$ from $A$ is $125^\circ$.
Find the bearing of $A$ from $C$. 
1.

(a) By measurement, find the bearing of $B$ from $A$.

(b) The bearing of another point, $C$, from $A$ is $226^\circ$. Work out the bearing of $A$ from $C$. 
5. The diagram shows two towns, $A$ and $B$.

(a) Measure the bearing of $B$ from $A$.

(b) A plane flies along the perpendicular bisector of the line $AB$. Use ruler and compasses to construct the perpendicular bisector of $AB$. Show all your construction lines.

(c) The bearing of another town, $C$, from $A$ is $120^\circ$. Work out the bearing of $A$ from $C$. 
1. The diagram shows a map of an island. Two towns, $P$ and $Q$, are shown on the map.

(a) Find the bearing of $Q$ from $P$. 
The scale of the map is 1 cm to 5 km.

(b) Find the real distance between $P$ and $Q$.

Another town, $R$, is due East of $Q$.
The bearing of $R$ from $P$ is $135^\circ$.

(c) On the map, mark and label $R$. 