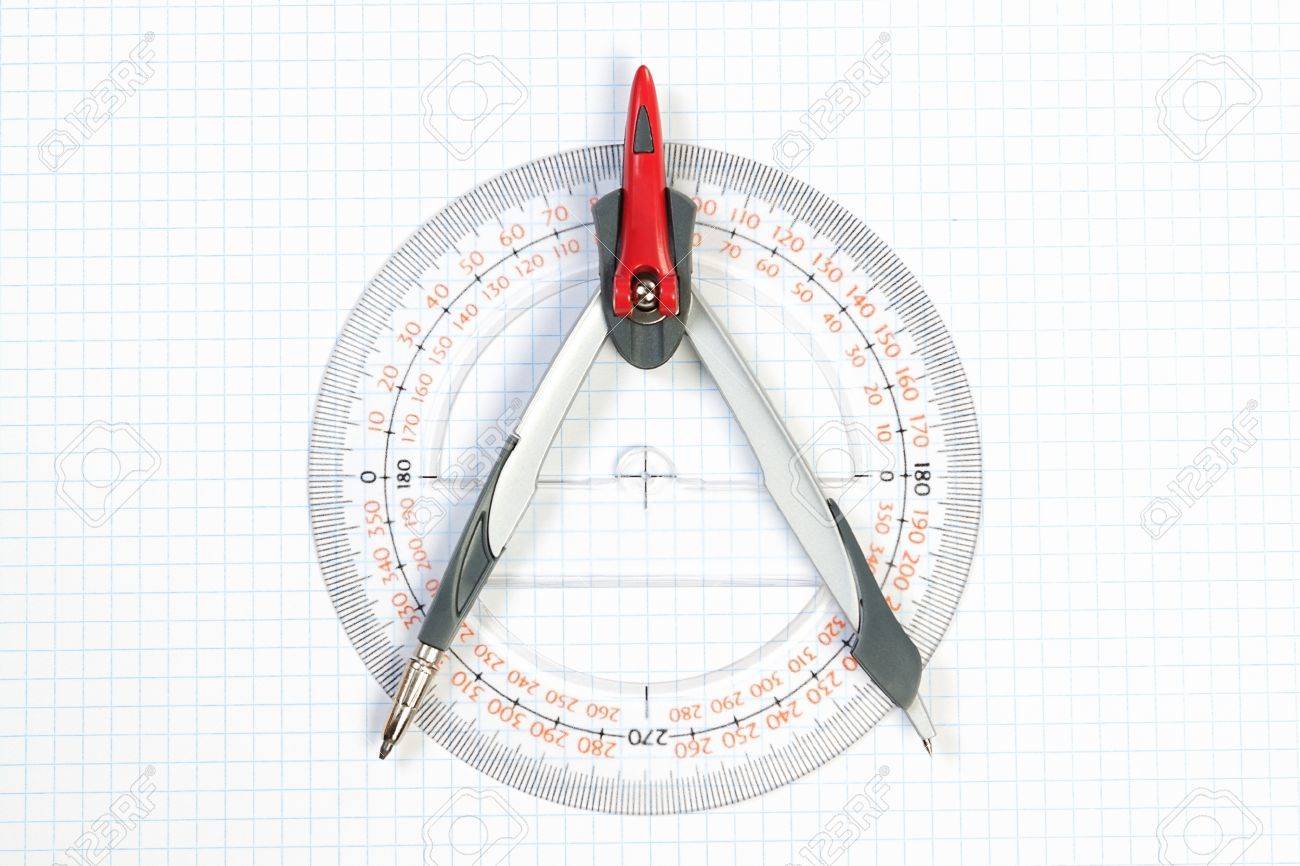
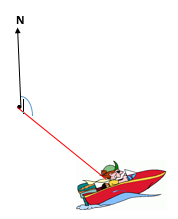
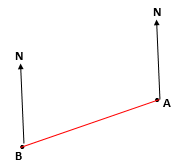
Bearings – Constructions - Loci



*Using your measuring kit!*

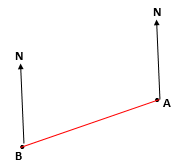
**Three-figure Bearings**

* These are used, along with distance to describe the location of an object from a point.
* The direction is always measured in a clockwise direction from North.
* The bearing of **A from B** means that you are standing at B and measuring the turn you make from pointing North to pointing at A.

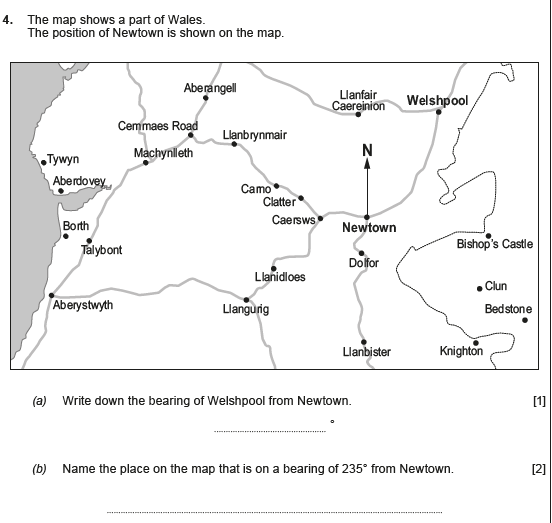


* If the measured angle is less than 100o, a zero is placed in front to make a three digit number. So an measured angle of 65o would be a bearing of 065o.
* Because the North-South direction is always the same, the properties of parallel lines can be used to work out angles.

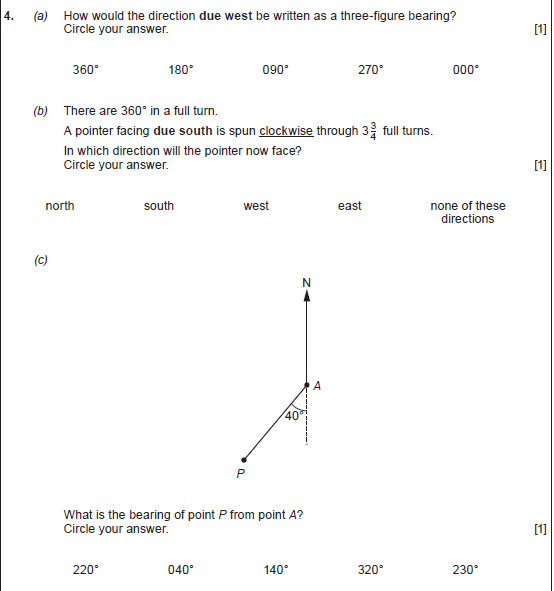
For example, if the bearing of A from B is 065o, we can work out the bearing of B from A (the back-bearing) without measuring.



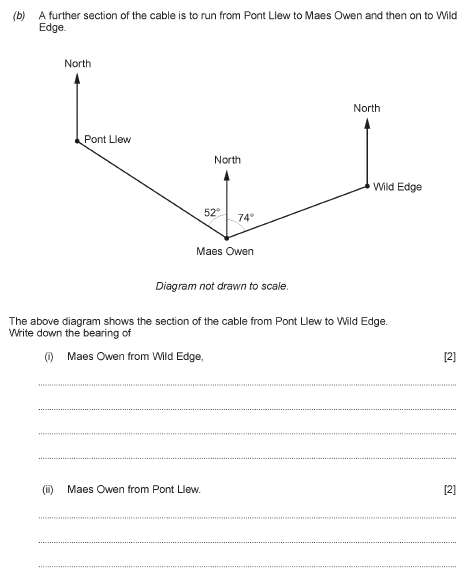
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**Accurate Drawing**

**Bisect the following lines**

**Bisect the following angles**

**Construct a 60o angle at A**

**A**

**A**

**A**

**A**

**Construct a 30o angle at B**

**B**

**B**

**Construct a 90o angle at C**

**C**

**C**

Complete an accurate drawing of triangle ABC in which AB = 10.5cm, angle BAC = 67o and

BC = 11cm.

Measure and record the size of angle ACB:\_\_\_\_\_\_\_\_\_\_

Complete an accurate drawing of triangle PQR in which PQ = 10.5cm, PR = 9cm and

QR = 12cm.

Measure and record the size of angle PRQ:\_\_\_\_\_\_\_\_\_\_

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**Loci**

* A **locus** is a path which is formed by a point that moves according to some rule. The plural of locus is **loci**.
* They are used to identify areas that meet given criteria, such as a given distance from a point or halfway between two lines.
* Loci need to be constructed using standard techniques already met – circle, perpendicular bisector and angle bisector.
* Once the loci have been drawn, the appropriate region has to be found and shaded by interpreting the language of the criteria such as ***at least, at most, no further, within, equidistant…***
* **Locus of a path equidistant from a point – circle**

*Draw the path which is exactly 2cm from A*

**A**

•

*Shade the region which is at least 2cm from A*

* **Locus of a path equidistant from two points – perpendicular bisector**

*Draw the path which is exactly the same distance from A and B*

**A**

•

•

**B**

*Shade the region which is closer to B than to A*

* **Locus of a path equidistant from a line – parallel line**

*Draw the path which is exactly 2cm from the line AB*

**A**

**B**

*Shade the region which is at most 2cm from AB*

* **Locus of a path equidistant from two lines – angle bisector**

*Draw the path which is exactly the same distance from the lines AB and BC*

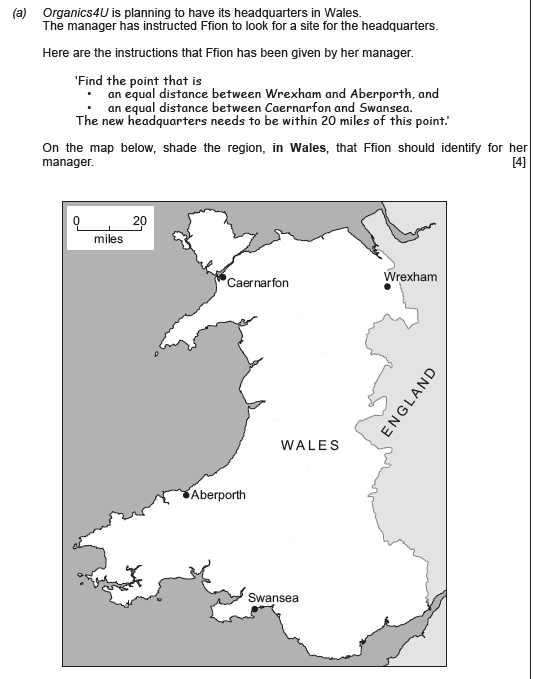
**C**

**B**

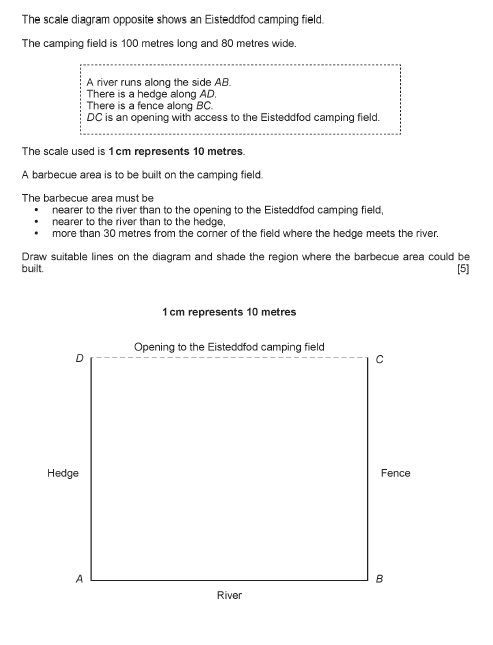
**A**

*Shade the region which is further from AB than BC*

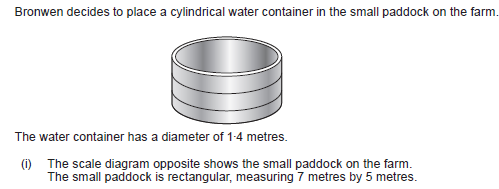
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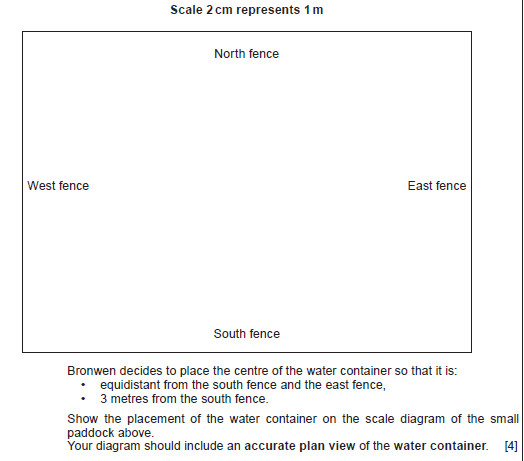


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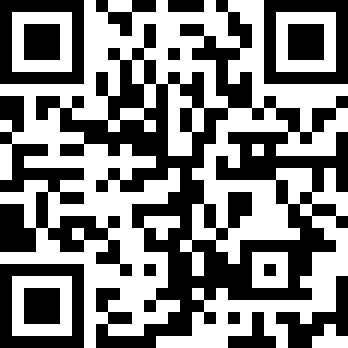
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For printable copies of this workbook, or more GCSE questions on bearings, constructions and loci, many with video solutions click on the QR code below or go to

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