

Discussion Problems

Step 4: Drawing Lines and Angles Accurately

National Curriculum Objectives:

Mathematics Year 5: (5G4a) [Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles](#)

Mathematics Year 5: (5G4c) [Draw given angles and measure them in degrees](#)

About this resource:

This resource has been designed for pupils who understand the concepts within [this step](#). It provides pupils with more opportunities to enhance their reasoning and problem solving skills through more challenging problems. Pupils can work in pairs or small groups to discuss with each other about how best to tackle the problem, as there is often more than one answer or more than one way to work through the problem.

There may be various answers for each problem. Where this is the case, we have provided one example answer to guide discussion.

We recommend self or peer marking using the answer page provided to promote discussion and self-correction.

More [Year 5 Properties of Shape](#) resources.

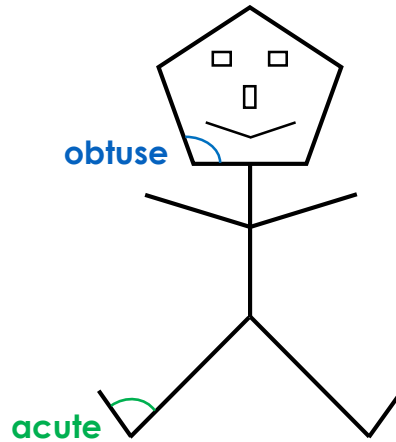
Did you like this resource? Don't forget to [review](#) it on our website.

Drawing Lines and Angles Accurately

1. Maria is drawing images using straight lines and measuring angles.



I've drawn this stickman using straight lines and acute and obtuse angles.



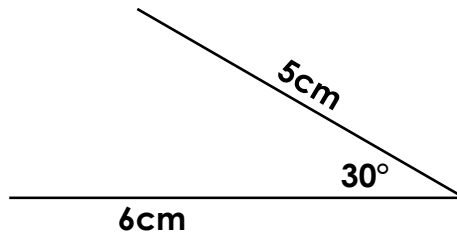
Draw your own picture using straight lines and angles.

One line must be 7cm, one line needs to measure 8.7cm and one line needs to be 560 mm. Label these lines.

You also need to have at least two acute angles and at least 3 obtuse angles. Label the acute and obtuse angles.

DP

2. A triangle has one side that is 6cm and another side that is 5cm with an angle of 30° between them. Draw these two sides and the third side to complete the triangle. Measure the third side accurately.



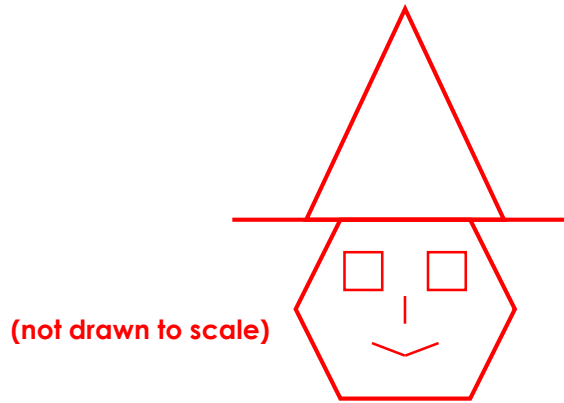
Investigate what happens to the length of the third side if you keep one side as 6cm and the other as 5cm but change the angle between them.

DP

Drawing Lines and Angles Accurately

1. Maria is drawing images using straight lines and measuring angles.

Various possible answers, for example:



Lines and angles should be identified.

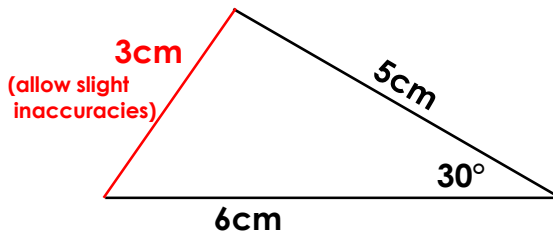
Draw your own picture using straight lines and angles.

One line must be 7cm, one line needs to measure 8.7cm and one line needs to be 560 mm. Label these lines.

You also need to have at least two acute angles and at least 3 obtuse angles. Label the acute and obtuse angles.

DP

2. A triangle has one side that is 6cm and another side that is 5cm with an angle of 30° between them. Draw these two sides and the third side to complete the triangle. Measure the third side accurately.



Investigate what happens to the length of the third side if you keep one side as 6cm and the other as 5cm but change the angle between them.

The bigger the angle, the longer the length of the third side.
The smaller the angle, the shorter the length of the third side.

DP