# Discussion Problems
# Step 6: Calculating Angles around a Point

## National Curriculum Objectives:

**Mathematics Year 5: (5G4b) Identify angles at a point and one whole turn (total 360)**

## 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 Shapes resources.

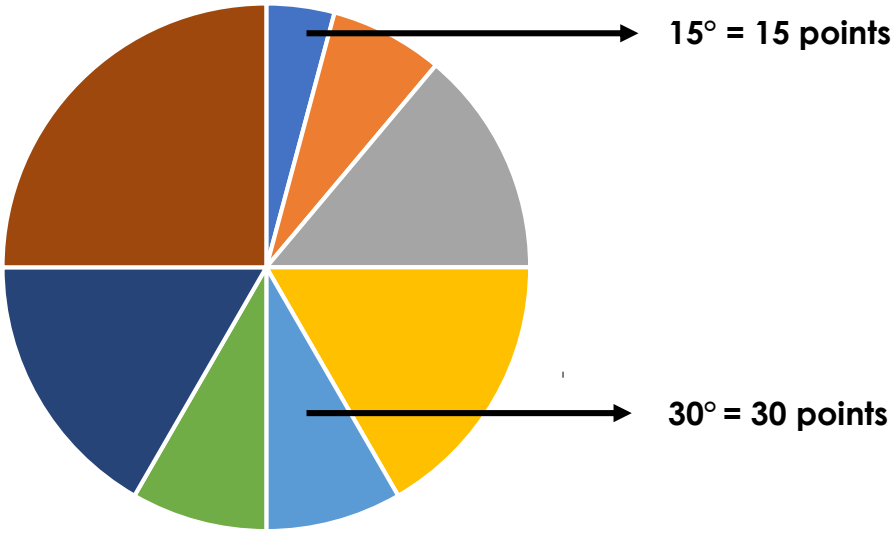
## Did you like this resource? Don't forget to review it on our website.

# Calculating Angles around a Point

**1. Below is a target board. When all the points are added together on the board, the sections add up to 360 points.**

**Calculate the possibilities and label the sections of the game board so that the size of each angle matches up to its value. Two have been done for you.**

*Not drawn to scale*



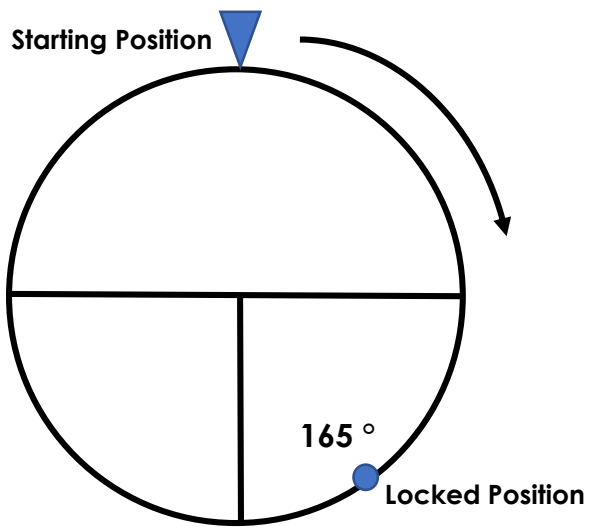

**Cath has thrown 5 darts and scored 270. Investigate where the darts could have landed. You can score in the same section more than once.**

DP

**2. Claire has parked her car and her steering wheel has locked in a position after she has turned.**

**She makes three clockwise turns and one anti-clockwise turn in order to get her steering wheel back to its starting position. Each turn made was a different size and each turn was bigger than the previous turn.**

*Not drawn to scale*



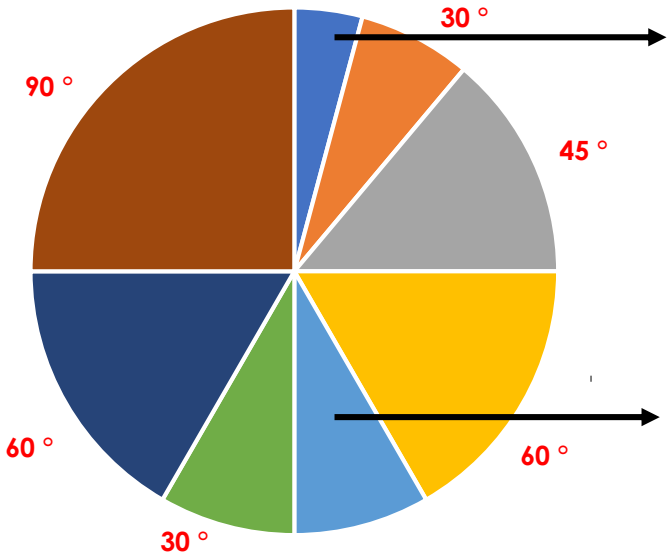

**Investigate which four turns she could have made.**

DP

# Calculating Angles around a Point

**1. Below is a target board. When all the points are added together on the board, the sections add up to 360 points.**
**Calculate the possibilities and label the sections of the game board so that the size of each angle matches up to its value. Two have been done for you.**
**Various possible answers, for example:**

*Not drawn to scale*



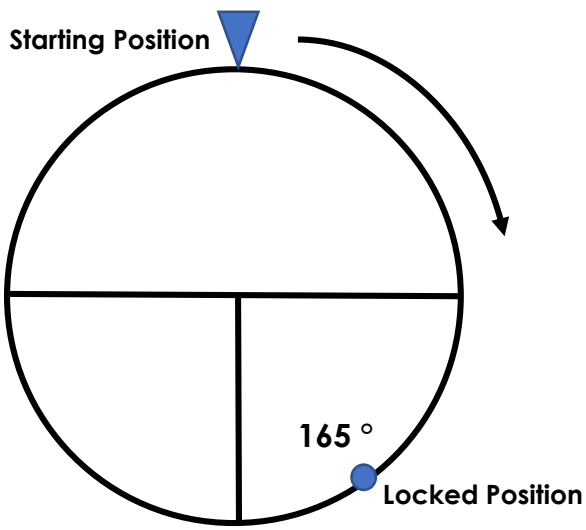

**Cath has thrown 5 darts and scored 270. Investigate where the darts could have landed. You can score in the same section more than once.**
**Various possible answers including: 15°, 30°, 45°, 90°, 90°**

DP

**2. Claire has parked her car and her steering wheel has locked in a position after she has turned.**

**She makes three clockwise turns and one anti-clockwise turn in order to get her steering wheel back to its starting position. Each turn made was a different size and each turn was bigger than the previous turn.**

*Not drawn to scale*




**Investigate which four turns she could have made.**
**Various possible answers, for example: clockwise 15°, 45°, 90°, anti-clockwise 315°**

DP