

Max's Geometry Garden: Exploring Angles

Learning objective: Identify, compare, and order angles up to two right angles by size, and recognise that two right angles make a half-turn and four make a whole turn.

Help Max the monkey organise his garden. Read the descriptions below and use your knowledge of angles to solve his puzzles. Remember that a right angle is exactly 90 degrees.

Max the monkey is designing a new playground in his garden. He knows that shapes and angles are everywhere! He uses a special measuring tool to check that his wooden climbing frames are safe. Max says: 'An angle is the amount of turn between two lines that meet at a point. If the angle is smaller than a corner of a square, it is acute. If it is larger than a corner of a square but smaller than a straight line, it is obtuse. A perfect square corner is called a right angle.' Max needs your help to check his measurements before he starts building.

Word bank: acute · obtuse · right angle · straight line · degrees · turn

1. Max has built a triangular frame. Two of the angles are smaller than a right angle. What is the name for an angle that is less than 90 degrees? (1 mark)

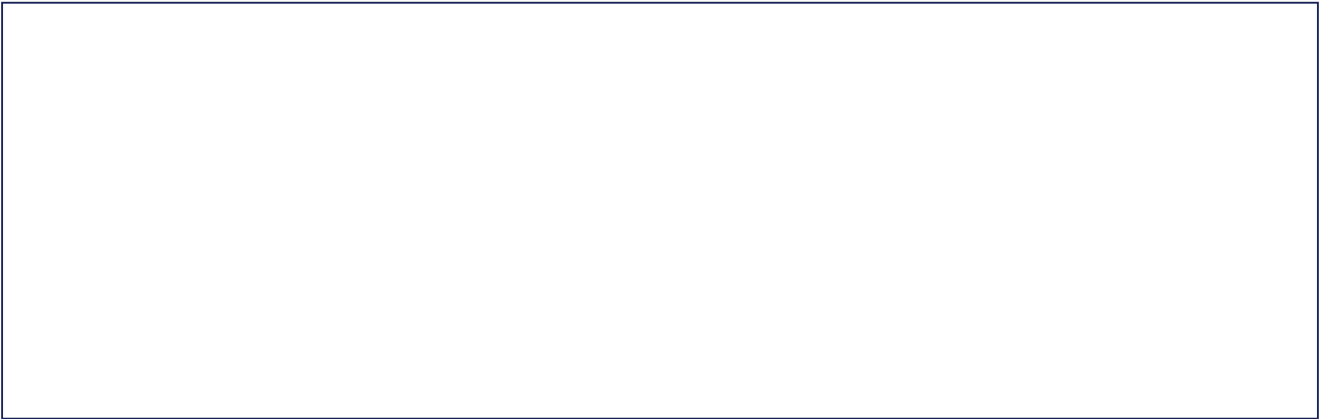
2. Max rotates a wooden plank by one full turn. How many degrees has the plank moved in total? (1 mark)

3. Look at the corner of a square tile. How many right angles are there in a square, and what is the total number of degrees? (2 marks)

4. Max finds a piece of metal bent into an obtuse angle. Explain to Max how he can tell it is obtuse without using a protractor. (2 marks)

5. If Max turns his head from facing North to facing South, has he made a quarter turn, a half turn, or a three-quarter turn? (1 mark)

Draw: Draw a garden scene for Max that includes one acute angle, one right angle, and one obtuse angle. Label each angle clearly.



Extension challenge: Max wants to build a path that makes a 180-degree turn. If he is currently facing East, which direction will he be facing after the turn? Can you draw this path and explain your reasoning?