

# Max's Magnificent Maths Adventure: Investigating Angles

*Learning objective: To identify, compare, and order angles up to two right angles by size, and recognise that two right angles make a half-turn.*

Help Max the monkey solve these geometry puzzles. Read each question carefully and show your working out where possible.

Max is exploring the Great Garden. He notices that the garden gate opens at different angles. When the gate is closed, it forms a straight line. When he opens it just a little, it forms a sharp, small angle. When he pushes it wider, it becomes a perfect square corner. If he pushes it even further until it is completely flat, he has made a half turn!

*Word bank: acute · obtuse · right angle · degrees · quarter turn · half turn*

- 1. Max finds a leaf with an angle smaller than a right angle. What is the mathematical name for this type of angle? (1 mark)**  

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- 2. Max opens a wooden box. The corner of the lid forms a perfect square corner. How many degrees is this angle? (1 mark)**  

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- 3. Max turns a circular dial from the top position to the bottom position. What fraction of a full turn has he completed? (1 mark)**  

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- 4. Look at these three angles: A ( $45^\circ$ ), B ( $90^\circ$ ), and C ( $120^\circ$ ). Order them from smallest to largest. (2 marks)**  

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- 5. Max says that an obtuse angle is always bigger than a right angle. Is he correct? Explain how you know. (2 marks)**  

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**Draw:** Draw a clock face showing the time 3:00. Use a ruler to draw the hands and clearly mark the right angle they create.



*Extension challenge: Max has a piece of string. If he makes a full turn, how many right angles has he passed through in total? Explain your reasoning using the words 'degrees' and 'right angles'.*