

Max's Geometric Garden Party

Learning objective: To identify, compare, and order angles and classify 2D shapes based on their geometric properties.

Read the information below about Max the monkey's garden party and answer the questions. Show your working out where necessary.

Max the monkey is planning a party in his garden. He has laid out a square picnic blanket with four right angles. He has placed rectangular sandwiches on a tray where the edges are perpendicular. Some of the party decorations are triangular bunting flags; some are acute-angled triangles and some are obtuse-angled triangles. Max has also drawn a path shaped like a hexagon to lead his friends to the fruit bowl. He wants to make sure all his shapes are perfectly measured before the other BookFlik friends arrive.

Word bank: acute · obtuse · right angle · parallel · perpendicular · polygon · vertices

1. Max says that a square has four right angles. Is he correct? Explain how you know. (2 marks)

2. Looking at the hexagonal path, how many vertices does a regular hexagon have? (1 mark)

3. Max finds a sandwich tray that is a rectangle. Describe the relationship between the two long sides of the rectangle using the word 'parallel'. (2 marks)

4. If an angle is smaller than a right angle, what is the mathematical name for it? (1 mark)

5. Max buys 3 sets of bunting for £4.50 each. How much does he spend in total? If he pays with a £20 note, how much change does he receive? (3 marks)

Draw: Draw a composite shape made up of one square and one triangle joined together. Label all the right angles you can find.



Extension challenge: Max wants to build a new garden fence. He says that if he uses only regular pentagons, he can tile them perfectly to cover a flat area without any gaps. Do you agree with Max? Research or explain why this might or might not be possible.