

Year 6 Maths Assessment: Mastering Angles

Learning objective: To calculate missing angles in triangles, quadrilaterals, around a point, and on a straight line, and to identify vertically opposite angles.

Read each question carefully. Show your working out for all calculations, as this may earn you method marks. Use a ruler and a protractor where necessary. You have 30 minutes to complete this paper.

Max the monkey is helping his friends organise a garden party. He is using his knowledge of angles to arrange the picnic tables and decorative bunting to ensure everything is perfectly aligned.

Word bank: acute · obtuse · reflex · vertically opposite · degrees · sum · protractor · intersecting

1. Max has two intersecting straight lines. If one angle is 65° , explain how he can find the value of the vertically opposite angle without using a protractor. (2 marks)

2. A triangle has two angles measuring 45° and 72° . Calculate the size of the third angle. Show your working. (2 marks)

3. Nova the owl is looking at a star formation. There are four angles around a central point. Three of the angles are 90° , 85° , and 110° . Calculate the value of the fourth angle. (3 marks)

4. In a quadrilateral, three of the interior angles are 110° , 80° , and 95° . What is the size of the fourth angle? Explain how you reached your answer. (4 marks)

5. Finn the dolphin is mapping a route. He turns 120° clockwise, then another 45° clockwise. What is the total angle of his turn? If he started facing North, what direction is he facing now? (4 marks)

6. Max is designing a triangular garden bed. He wants the angles to be in the ratio 1:2:3. Calculate the size of each of the three angles in degrees. Show the steps of your calculation clearly. (5 marks)

7. Zara is creating a piece of art using intersecting lines. Explain the relationship between angles on a straight line and why they must always add up to 180° . (5 marks)

Draw: Draw a sketch of a parallelogram and label the interior angles. If one angle is 70° , identify the size of the other three angles.



Extension challenge: Total: /25