

Max's Magnificent Angles Quiz

Learning objective: To identify, measure, and calculate angles using degrees, including estimating and comparing acute, obtuse, and reflex angles.

Max the monkey is obsessed with geometry! Help him solve these puzzles by using your knowledge of degrees, protractors, and angle properties. Show your working out clearly.

Answer Key: 1. B (90°), 2. True, 3. Acute, 4. 145° , 5. False (a straight line is 180°), 6. 30° , 7. 110° , 8. Obtuse, 9. 270° , 10. 180° . Explain why: A full rotation is 360° , so $360 - 90 = 270$. Extension: 1. Acute $< 90^\circ$, 2. Obtuse $> 90^\circ$ and $< 180^\circ$, 3. $50^\circ + 40^\circ = 90^\circ$, 4. Justify: Because the sum of angles on a straight line is 180° , $180 - 120 = 60$. 5. Compare: A reflex angle is greater than a straight line but less than a full turn. 6. Creative Task: Students should draw a shape with three acute angles (e.g., an equilateral triangle).

Word bank: acute · obtuse · reflex · right-angle · protractor · degrees · straight-line · sum

1. What is the exact measurement of a right-angle? A) 45° B) 90° * C) 180° D) 360° (1 mark)

2. True or False: An acute angle is always smaller than 90 degrees. (1 mark)

3. If an angle measures 45° , what type of angle is it? (1 mark)

4. Max has an angle that is 35° larger than a right-angle. What is the total size of his angle? (1 mark)

5. True or False: A straight-line angle measures exactly 90 degrees. (1 mark)

6. If one angle of a right-angle is 60° , what is the missing angle? (1 mark)

7. What is the missing angle on a straight line if one angle is 70° ? (1 mark)

8. What type of angle is 135° ? (1 mark)

9. How many degrees are in a reflex angle that is three-quarters of a full turn? (1 mark)

10. What is the sum of angles on a straight line? (1 mark)

Draw: Draw a large, colourful 'Max's Adventure Map'. On the map, include a path that shows one acute angle, one obtuse angle, and one right-angle clearly marked with their approximate degree values.



Extension challenge: 1. Explain why a reflex angle must be greater than 180° . 2. Compare and contrast the properties of an obtuse angle and a reflex angle. 3. If you have two angles on a straight line and one is 120° , justify how you calculate the other. 4. What might happen to the shape of a triangle if you increased one of its acute angles to 100° ? 5. Design a composite shape using only right-angles. 6. Create a word problem involving angles for a partner to solve.