

Max's Magnificent Measurement Challenge

Learning objective: To calculate the perimeter of rectilinear shapes and find the area by counting squares.

Help Max the monkey solve these geometric puzzles. Read each question carefully. For multiple-choice questions, choose the letter of the correct answer.

Answer Key: 1. B*, 2. True, 3. 24cm, 4. C*, 5. False, 6. 16, 7. A*, 8. True, 9. 12cm, 10. B*. Note: Perimeter is the distance around the edge; Area is the space inside.

Word bank: Area · Perimeter · Rectilinear · Square centimetres · Centimetres · Total distance · Surface

1. 1. Max is building a fence around his banana patch. He needs to find the: A) Area B) Perimeter* C) Volume D) Weight (1 mark)

2. 2. True or False: To find the area of a shape on squared paper, you can count the number of squares inside the boundary. (1 mark)

3. 3. A rectangle has a length of 8cm and a width of 4cm. What is the perimeter? (1 mark)

4. 4. If a square has a side length of 3cm, what is its area? A) 6cm² B) 12cm² C) 9cm²* D) 3cm² (1 mark)

5. 5. True or False: The perimeter of a shape is always the same as its area. (1 mark)

6. 6. A shape covers 16 whole squares on a grid. What is the area in square centimetres (cm²)? (1 mark)

7. 7. Which unit is best for measuring the perimeter of a book? A) cm* B) m C) km D) ml (1 mark)

8. 8. True or False: A rectilinear shape has sides that meet at right angles. (1 mark)

9. 9. A square has a perimeter of 48cm. What is the length of one side? (1 mark)

10. 10. Max has a rug that costs £5 per square meter. If the rug is 4 metres long and 3 metres wide, how much does it cost? A) £15 B) £60* C) £20 D) £12 (1 mark)

Draw: Draw a rectilinear shape on a grid that has an area of 10cm^2 and label its perimeter.



Extension challenge: 1. Explain why a shape with a larger area does not always have a larger perimeter. 2. Compare and contrast the methods used to find area versus perimeter. 3. Justify your answer: If you double the side length of a square, does the area double? Why or why not? 4. What might happen if you tried to calculate the area of a triangle using the same method as a rectangle? 5. Design a garden layout on squared paper with a perimeter of 20cm and calculate its area. 6. If Max had £50, could he afford to fence a rectangular garden that is 10m by 10m if fencing costs £2 per meter? Justify your answer.