WONDERLEARNERZ PRIMARY ACADEMY â€" OFFICIAL ANSWER KEY & MARKING SCHEME

Perimeter and Measuring Boundaries - Worksheet 4 [ANSWER KEY]

Grade 3 | Mathematics | Ch 8: Perimeter and Measuring Boundaries | Total Marks: 19 | Time: 30 Minutes

Q1. Calculate the perimeter of a rectangle with length 18 cm and width 9 cm: [1 Mark]

Correct Answer: 54 cm

Explanation: Perimeter = 2 x (18 + 9) = 2 x 27 = 54 cm.

Q2. What is the perimeter of a square with sides of length 18 cm? [1 Mark]

Correct Answer: 72 cm

Explanation: Square perimeter = 4 x 18 = 72 cm.

Q3. A triangle has sides of 8 cm, 11 cm, and 14 cm. What is its perimeter? [1 Mark]

Correct Answer: 33 cm

Explanation: 8 + 11 + 14 = 33 cm.

Q4. Which unit is appropriate for measuring perimeter? [1 Mark]

Correct Answer: Centimetres (cm) or metres (m)

Explanation: Perimeter is a linear distance, measured in linear units like cm, m, or km.

Q5. At the Suburban Backyard Lawn, an organizer installs a wooden border around the Play Area (18 m long and 9 m wide). What is the total length of border required? [1 Mark]

Correct Answer: 54 metres

Explanation: Border length = 2 x (18 + 9) = 54 metres.

Q6. A gardener wants to put wire fencing around a square vegetable patch with side 9 metres. Fencing costs $5 per metre. What will the fencing cost in total? [1 Mark]

Correct Answer: $180

Explanation: Perimeter = 4 x 9 m = 36 m. Cost = 36 x $5 = $180.

Q7. A photograph measuring 15 cm by 10 cm is framed with lace ribbon. If lace costs $2 per 10 cm, how much does the lace border cost? [1 Mark]

Correct Answer: $10

Explanation: Perimeter = 2 x (15 + 10) = 50 cm. 50 cm / 10 = 5 units. 5 x $2 = $10.

Q8. A rectangle has a perimeter of 54 cm. If its length is 18 cm, what is its width? [1 Mark]

Correct Answer: 9 cm

Explanation: Two lengths = 36 cm. Remaining for 2 widths = 54 - 36 = 18 cm. Width = 9 cm.

Q9. A square has a perimeter of 72 cm. What is the length of ONE side? [1 Mark]

Correct Answer: 18 cm

Explanation: Side length = 72 / 4 = 18 cm.

Q10. A student calculates the perimeter of a 6 cm by 4 cm rectangle as 24 cm. What did the student do wrong? [1 Mark]

Correct Answer: The student multiplied length x width (calculating area = 24 cmÂ²) instead of adding all 4 sides (Perimeter = 20 cm)

Explanation: Perimeter is 2 x (6 + 4) = 20 cm. 6 x 4 = 24 cmÂ² is the area.

Q11. Tariq measures an L-shaped room and calculates perimeter by only adding the 4 longest outer walls, omitting 2 inner corners. Why is this incorrect? [1 Mark]

Correct Answer: Perimeter must include the length of EVERY single segment along the closed boundary

Explanation: Perimeter requires summing every segment along the boundary without skipping any edges.

Q12. Can two completely different rectangles have the exact same perimeter? Explain. [2 Marks]

Correct Answer: Yes; for example, a 6x4 rectangle and an 8x2 rectangle both have a perimeter of 20 cm

Explanation: Different pairs of length and width can sum to the same semi-perimeter (6+4=10 and 8+2=10, both giving P=20 cm).

Q13. If you double the side length of a square from 5 cm to 10 cm, what happens to its perimeter? **[2 Marks]**

Correct Answer: The perimeter exactly doubles from 20 cm to 40 cm

Explanation: Perimeter = 4 x side. Doubling the side doubles the perimeter: 4 x 5 = 20 cm; 4 x 10 = 40 cm.

Q14. An equilateral triangle and a square have the exact same perimeter of 36 cm. How much longer is a side of the triangle than a side of the square? **[2 Marks]**

Correct Answer: 3 cm longer

Explanation: Triangle side = 36 / 3 = 12 cm. Square side = 36 / 4 = 9 cm. Difference = 12 - 9 = 3 cm longer.

Q15. A rectangular swimming pool is 12 m long and 6 m wide. A 1-metre wide paved walking path surrounds the pool completely on all sides. What is the outer perimeter of the paved path? **[2 Marks]**

Correct Answer: 44 metres

Explanation: Outer length = 12 + 1 + 1 = 14 m. Outer width = 6 + 1 + 1 = 8 m. Outer perimeter = 2 x (14 + 8) = 2 x 22 = 44 metres.