Perimeter and Area

CBSE

Worksheet | Grade 6 | Mathematics

10 original questions | 20 marks | Student copy and teacher key

Name: _____ Class / section: _____ Date: _____

Use your notebook or additional paper for working and extended answers. Show reasoning where asked.

Question 1: Boundary and surface [2]

A rectangle is 9 cm long and 5 cm wide. Find its perimeter and area, including units.
Working / response: _____

Question 2: A square frame [2]

A square has side 7 cm. Find its perimeter and area.
Working / response: _____

Question 3: Find a missing side [2]

A rectangle has perimeter 34 cm and length 10 cm. Find its breadth and area.
Working / response: _____

Question 4: Two rounds of a triangular track [2]

A triangular track has sides 8 m, 11 m and 13 m. Find the distance around it once and the distance for two complete rounds.
Working / response: _____

Question 5: Leave space for a gate [2]

A rectangular garden is 12 m by 8 m. A 3 m opening is left for a gate. Find the fencing length and the cost at Rs 50 per metre.
Working / response: _____

Question 6: Keep the units consistent [2]

A rectangular display board is 240 cm by 150 cm. Find the length of tape for one complete border, in metres.
Working / response: _____

Question 7: Same perimeter, different area [2]

Compare rectangles measuring 8 cm by 3 cm and 6 cm by 5 cm. Do they have equal perimeters? Do they have equal areas?
Working / response: _____

Question 8: Work backwards from area [2]

A square has area 81 square cm. Find its side length and perimeter.
Working / response: _____

Question 9: Cover a classroom floor [2]

A 6 m by 4 m floor is covered with square tiles of side 50 cm, with no gaps or wastage. How many tiles are needed? Show your method.
Working / response: _____

Question 10: A shape with a corner removed [2]

A rectangle is 8 cm by 6 cm. A 3 cm by 2 cm rectangle is removed from its top-right corner. Find the remaining area and explain why subtracting the two perimeters would not give the new perimeter.
Working / response: _____

Teacher key: Perimeter and Area

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These are classroom marking points. Accept equivalent correct methods and supported interpretations. Each numbered criterion carries one mark.

Question 1: Boundary and surface [2]

1. Perimeter = 2 x (9 + 5) = 28 cm.
2. Area = 9 x 5 = 45 square cm.

Question 2: A square frame [2]

1. Perimeter = 4 x 7 = 28 cm.
2. Area = 7 x 7 = 49 square cm.

Question 3: Find a missing side [2]

1. Length + breadth = 34 / 2 = 17 cm, so breadth = 17 - 10 = 7 cm.
2. Area = 10 x 7 = 70 square cm.

Question 4: Two rounds of a triangular track [2]

1. One round = 8 + 11 + 13 = 32 m.
2. Two rounds = 2 x 32 = 64 m.

Question 5: Leave space for a gate [2]

1. Boundary = 2 x (12 + 8) = 40 m; fencing needed = 40 - 3 = 37 m.
2. Cost = 37 x 50 = Rs 1,850.

Question 6: Keep the units consistent [2]

1. Perimeter = 2 x (240 + 150) = 780 cm.
2. 780 cm = 7.8 m of tape.

Question 7: Same perimeter, different area [2]

1. Both perimeters are 22 cm: 2 x (8 + 3) = 2 x (6 + 5).
2. Their areas differ: 24 square cm and 30 square cm.

Question 8: Work backwards from area [2]

1. The side is 9 cm because 9 x 9 = 81.
2. Perimeter = 4 x 9 = 36 cm.

Question 9: Cover a classroom floor [2]

1. Floor area = 24 square m; each tile has side 0.5 m and area 0.25 square m.
2. Number of tiles = 24 / 0.25 = 96.

Question 10: A shape with a corner removed [2]

1. Remaining area = (8 x 6) - (3 x 2) = 48 - 6 = 42 square cm.
2. Removing the corner exposes two new boundary segments, so perimeters cannot simply be subtracted. The new perimeter is 28 cm, but only the explanation is required.