

Area and Perimeter: math test solutions, Grade 3 – download the PDF

Test solutions with the detailed point scale. Add up your points and spot what to review.

Suggested time: 45 minutes. Out of 20 points. Calculator allowed only when the problem says so.

1 Tiles and rows

/ 3 pts

(a) $6 \times 8 = 48$. The kitchen floor has an area of 48 square feet. (2 pts)

(b) The pantry: $9 \times 5 = 45$ square feet. $48 - 45 = 3$. The kitchen floor is greater by 3 square feet. (1 pt)

2 Rectangle measures

/ 4 pts

(a) Area: $11 \times 8 = 88$ square meters. (1 pt) Perimeter: $2 \times (11 + 8) = 38$ meters. (1 pt)

(b) Width: $72 \div 9 = 8$ inches. (1 pt) Perimeter: $2 \times (9 + 8) = 34$ inches. (1 pt)

3 Break it apart

/ 4 pts

- (a) $6 \times 7 = 42$ square feet and $3 \times 7 = 21$ square feet. (2 pts)
- (b) $42 + 21 = 63$. The area of the mural is 63 square feet. (1 pt)
- (c) She used the distributive property: $7 \times (6 + 3) = 7 \times 6 + 7 \times 3$. (1 pt)

4 Around the polygon

/ 3 pts

- (a) $5 + 8 + 6 + 9 + 4 = 32$. The perimeter is 32 centimeters. (1 pt)
- (b) $10 + 8 = 18$ (1 pt), then $27 - 18 = 9$. The third side is 9 inches. (1 pt)

5 Same area

/ 3 pts

- (a) The pairs with product 18 are 18 by 1, 9 by 2, and 6 by 3. The perimeters are $2 \times 19 = 38$, $2 \times 11 = 22$, and $2 \times 9 = 18$. (2 pts)

Length	Width	Area	Perimeter
18	1	18	38
9	2	18	22
6	3	18	18

- (b) The 6 by 3 rectangle has the smallest perimeter, 18 units. (1 pt)

6

An L-shaped room

/ 3 pts

(a) Cut the room into a top rectangle and a bottom rectangle. The top is 4 m by 5 m:

$4 \times 5 = 20$. The bottom is 11 m by 3 m: $11 \times 3 = 33$. Then $20 + 33 = 53$. The area is 53 square meters. (2 pts)

(b) $4 + 5 + 7 + 3 + 11 + 8 = 38$. The perimeter is 38 meters. (1 pt)

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