

# Area and Perimeter Word Problems

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Score: \_\_\_\_\_ / 24

## Q Quick Review

In real life you have to decide **which one a problem is asking for**. Use **area** when you are covering a surface — tiles on a floor, paint on a wall, grass in a yard — and multiply length  $\times$  width to get **square units**. Use **perimeter** when you are going around an edge — a fence, a border, a ribbon — and compute  $2 \times (\text{length} + \text{width})$  to get plain **units**. **Read carefully** for clue words: “cover,” “inside,” and “square” point to area, while “around,” “fence,” and “border” point to perimeter.

◇ **Example:** A rectangular dog pen is 8 feet long and 5 feet wide. How many feet of fencing go around it, and how many square feet of ground does it cover?

⇒ This problem asks for two things. “Fencing around it” is the perimeter, so add length and width and double:  $2 \times (8 + 5) = 2 \times 13 = 26$  feet of fencing. “Square feet of ground it covers” is the area, so multiply length times width:  $8 \times 5 = 40$  square feet. Notice the units: perimeter uses feet, area uses square feet.

**Answer:** 26 ft of fencing; 40 square feet

## PRACTICE

Decide if each problem needs area or perimeter, then solve.

- |   |  |
|---|--|
| 1. Tiles to cover a 6 by 4 floor (sq units)? _____      | 12. Fence around a 15 by 6 field (units)? _____            |
| 2. Fence around a 6 by 4 yard (units)? _____            | 13. Tile covering a 11 by 3 hallway (sq units)? _____      |
| 3. Paint to cover a 9 by 5 wall (sq units)? _____       | 14. Walkway around a 11 by 3 patio (units)? _____          |
| 4. Border around a 9 by 5 poster (units)? _____         | 15. Paint covering a 14 by 5 fence panel (sq units)? _____ |
| 5. Grass covering a 10 by 7 lawn (sq units)? _____      | 16. Edging around a 14 by 5 garden bed (units)? _____      |
| 6. Edging around a 10 by 7 lawn (units)? _____          | 17. Mulch covering a 20 by 9 flower bed (sq units)? _____  |
| 7. Carpet inside a 12 by 8 room (sq units)? _____       | 18. Fence around a 20 by 9 pasture (units)? _____          |
| 8. Trim around a 12 by 8 rug (units)? _____             | 19. Tiles covering a 16 by 10 kitchen (sq units)? _____    |
| 9. Stickers covering an 8 by 8 square (sq units)? _____ | 20. Border around a 16 by 10 banner (units)? _____         |
| 10. Ribbon around an 8 by 8 square (units)? _____       |  |
| 11. Sod to cover a 15 by 6 field (sq units)? _____      |  |

## ◆ Word Problems

21. Maria is laying square tiles to cover her kitchen floor, which is 12 feet long and 4 feet wide. How many square feet of tile does she need? \_\_\_\_\_
22. A farmer wants to put a fence around a rectangular chicken yard that is 15 feet long and 10 feet wide. How many feet of fence does the farmer need? \_\_\_\_\_
23. A square trampoline mat is 9 feet on each side. How many square feet of mat does it cover? \_\_\_\_\_
24. Jordan glues a ribbon border around a rectangular poster that is 15 inches long and 10 inches wide. How many inches of ribbon does Jordan need? \_\_\_\_\_



## Answer Keys

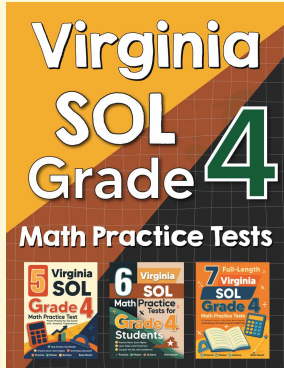
- |                 |                    |
|-----------------|--------------------|
| 1. 24 sq units  | 13. 33 sq units    |
| 2. 20 units     | 14. 28 units       |
| 3. 45 sq units  | 15. 70 sq units    |
| 4. 28 units     | 16. 38 units       |
| 5. 70 sq units  | 17. 180 sq units   |
| 6. 34 units     | 18. 58 units       |
| 7. 96 sq units  | 19. 160 sq units   |
| 8. 40 units     | 20. 52 units       |
| 9. 64 sq units  | 21. 48 square feet |
| 10. 32 units    | 22. 50 feet        |
| 11. 90 sq units | 23. 81 square feet |
| 12. 42 units    | 24. 50 inches      |

### Step-by-Step Explanations

- |  |   |
|--|---|
| <p>1. "Cover" means area: <math>6 \times 4 = 24</math> square units.</p> <p>2. "Fence around" means perimeter: <math>2 \times (6 + 4) = 20</math> units.</p> <p>3. "Cover" means area: <math>9 \times 5 = 45</math> square units.</p> <p>4. "Border around" means perimeter: <math>2 \times (9 + 5) = 28</math> units.</p> <p>5. "Covering" means area: <math>10 \times 7 = 70</math> square units.</p> <p>6. "Around" means perimeter: <math>2 \times (10 + 7) = 34</math> units.</p> <p>7. "Inside" means area: <math>12 \times 8 = 96</math> square units.</p> <p>8. "Around" means perimeter: <math>2 \times (12 + 8) = 40</math> units.</p> <p>9. "Covering" means area: <math>8 \times 8 = 64</math> square units.</p> <p>10. "Around" means perimeter: <math>2 \times (8 + 8) = 32</math> units.</p> <p>11. "Cover" means area: <math>15 \times 6 = 90</math> square units.</p> <p>12. "Fence around" means perimeter: <math>2 \times (15 + 6) = 42</math> units.</p> <p>13. "Covering" means area: <math>11 \times 3 = 33</math> square units.</p> <p>14. "Around" means perimeter: <math>2 \times (11 + 3) = 28</math> units.</p> | <p>15. "Covering" means area: <math>14 \times 5 = 70</math> square units.</p> <p>16. "Around" means perimeter: <math>2 \times (14 + 5) = 38</math> units.</p> <p>17. "Covering" means area: <math>20 \times 9 = 180</math> square units.</p> <p>18. "Fence around" means perimeter: <math>2 \times (20 + 9) = 58</math> units.</p> <p>19. "Covering" means area: <math>16 \times 10 = 160</math> square units.</p> <p>20. "Border around" means perimeter: <math>2 \times (16 + 10) = 52</math> units.</p> <p>21. "Cover the floor" means area, so multiply length times width: <math>12 \times 4 = 48</math>. She needs 48 square feet of tile.</p> <p>22. "Fence around" means perimeter: <math>2 \times (15 + 10) = 2 \times 25 = 50</math>. The farmer needs 50 feet of fence.</p> <p>23. "Cover" means area, and a square's sides are equal: <math>9 \times 9 = 81</math>. The mat covers 81 square feet.</p> <p>24. A border goes around the edge, so find the perimeter: <math>2 \times (15 + 10) = 2 \times 25 = 50</math>. Jordan needs 50 inches of ribbon.</p> |
|--|---|



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