

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

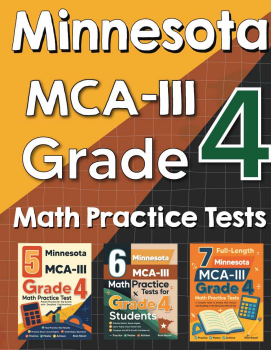
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|-----------------|--------------------|
| 1. 24 sq units | 13. 33 sq units |
| 2. 20 units | 14. 28 units |
| 3. 45 sq units | 15. 70 sq units |
| 4. 28 units | 16. 38 units |
| 5. 70 sq units | 17. 180 sq units |
| 6. 34 units | 18. 58 units |
| 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

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