

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

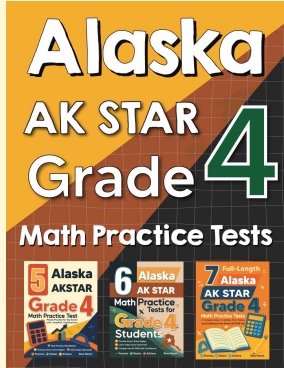
- | | |
|---|--|
| <ol style="list-style-type: none"> 1. 24 sq units 2. 20 units 3. 45 sq units 4. 28 units 5. 70 sq units 6. 34 units 7. 96 sq units 8. 40 units 9. 64 sq units 10. 32 units 11. 90 sq units 12. 42 units | <ol style="list-style-type: none"> 13. 33 sq units 14. 28 units 15. 70 sq units 16. 38 units 17. 180 sq units 18. 58 units 19. 160 sq units 20. 52 units 21. 48 square feet 22. 50 feet 23. 81 square feet 24. 50 inches |
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Step-by-Step Explanations

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| <ol style="list-style-type: none"> 1. "Cover" means area: $6 \times 4 = 24$ square units. 2. "Fence around" means perimeter: $2 \times (6 + 4) = 20$ units. 3. "Cover" means area: $9 \times 5 = 45$ square units. 4. "Border around" means perimeter: $2 \times (9 + 5) = 28$ units. 5. "Covering" means area: $10 \times 7 = 70$ square units. 6. "Around" means perimeter: $2 \times (10 + 7) = 34$ units. 7. "Inside" means area: $12 \times 8 = 96$ square units. 8. "Around" means perimeter: $2 \times (12 + 8) = 40$ units. 9. "Covering" means area: $8 \times 8 = 64$ square units. 10. "Around" means perimeter: $2 \times (8 + 8) = 32$ units. 11. "Cover" means area: $15 \times 6 = 90$ square units. 12. "Fence around" means perimeter: $2 \times (15 + 6) = 42$ units. 13. "Covering" means area: $11 \times 3 = 33$ square units. 14. "Around" means perimeter: $2 \times (11 + 3) = 28$ units. | <ol style="list-style-type: none"> 15. "Covering" means area: $14 \times 5 = 70$ square units. 16. "Around" means perimeter: $2 \times (14 + 5) = 38$ units. 17. "Covering" means area: $20 \times 9 = 180$ square units. 18. "Fence around" means perimeter: $2 \times (20 + 9) = 58$ units. 19. "Covering" means area: $16 \times 10 = 160$ square units. 20. "Border around" means perimeter: $2 \times (16 + 10) = 52$ units. 21. "Cover the floor" means area, so multiply length times width: $12 \times 4 = 48$. She needs 48 square feet of tile. 22. "Fence around" means perimeter: $2 \times (15 + 10) = 2 \times 25 = 50$. The farmer needs 50 feet of fence. 23. "Cover" means area, and a square's sides are equal: $9 \times 9 = 81$. The mat covers 81 square feet. 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. |
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