

Area and Perimeter of Quadrilaterals

Name: _____ Date: _____ Score: _____ / 30

Quick Review and Helpful Hints

Rectangle: area = $l \times w$, perimeter = $2(l + w)$. **Square:** area = s^2 , perimeter = $4s$.
Parallelogram: area = $b \times h$. Area is in square units; perimeter is the distance around.

▶ **Example:** A rectangle is 8 by 3. Find its area and perimeter.

Work: Area = $8 \times 3 = 24$. Perimeter = $2(8 + 3) = 2(11) = 22$.

★ **Answer:** $A = 24, P = 22$



$A = lw, P = 2(l + w)$.

◆ Practice Problems

Find each area or perimeter as directed.

- | | |
|--|--|
| <p>1. Rectangle area, $l = 5, w = 4$ _____</p> <p>2. Rectangle perimeter, $l = 5, w = 4$ _____</p> <p>3. Square area, $s = 6$ _____</p> <p>4. Square perimeter, $s = 6$ _____</p> <p>5. Rectangle area, $l = 10, w = 2$ _____</p> <p>6. Rectangle perimeter, $l = 10, w = 2$ _____</p> <p>7. Square area, $s = 9$ _____</p> | <p>8. Parallelogram area, $b = 7, h = 4$ _____</p> <p>9. Rectangle area, $l = 12, w = 5$ _____</p> <p>10. Rectangle perimeter, $l = 12, w = 5$ _____</p> <p>11. Square perimeter, $s = 10$ _____</p> <p>12. Parallelogram area, $b = 6, h = 5$ _____</p> <p>13. Square area, $s = 8$ _____</p> <p>14. Rectangle perimeter, $l = 7, w = 3$ _____</p> |
|--|--|

◆ Word Problems

15. A room is 12 ft by 10 ft. Find its area. _____
16. A square rug has side 5 ft. Find its perimeter. _____
17. A garden is 9 m by 4 m. Find its perimeter. _____
18. A parallelogram has base 8 and height 3. Find its area. _____



◆ **Illustrated Practice**

Use each picture. Decide whether area or perimeter is needed, then solve.


19. Find the area of the floor. _____


25. Find the perimeter of the rectangle. _____


20. A square table needs trim around the edge. Find the perimeter. _____


26. Find the side length of the square. _____


21. Find the area of the parallelogram. _____


27. Find the missing length. _____


22. A garden border goes around all sides. Find the perimeter. _____


28. Find the missing height. _____


23. Find the area of the square tile. _____


29. A fence goes around the rectangle. Find the perimeter. _____


24. Find the area of the banner. _____


30. Find the area of the label. _____



Answer Keys

- | | | |
|--------|-------------------------|------------------------|
| 1. 20 | 11. 40 | 21. 60 m ² |
| 2. 18 | 12. 30 | 22. 30 m |
| 3. 36 | 13. 64 | 23. 64 in ² |
| 4. 24 | 14. 20 | 24. 45 cm ² |
| 5. 20 | 15. 120 ft ² | 25. 42 ft |
| 6. 24 | 16. 20 ft | 26. 7 cm |
| 7. 81 | 17. 26 m | 27. 9 yd |
| 8. 28 | 18. 24 | 28. 7 m |
| 9. 60 | 19. 126 ft ² | 29. 56 ft |
| 10. 34 | 20. 28 ft | 30. 52 in ² |

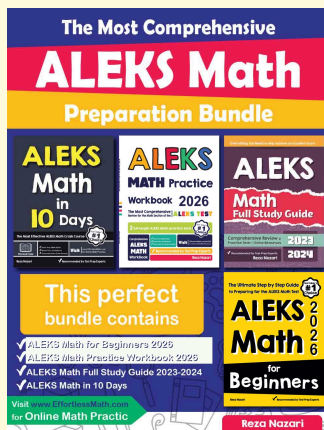
Step-by-Step Explanations

1. Start by naming the process: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is $A = l \times w = 5 \times 4 = 20$. So the final answer is 20.
2. A good way to think about this is: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is $P = 2(5 + 4) = 2(9) = 18$. So the final answer is 18.
3. Step by step: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is $A = s^2 = 6^2 = 36$. So the final answer is 36.
4. Take it one move at a time: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is $P = 4s = 4(6) = 24$. So the final answer is 24.
5. Start by naming the process: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is $A = 10 \times 2 = 20$. So the final answer is 20.
6. A good way to think about this is: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is $P = 2(10 + 2) = 2(12) = 24$. So the final answer is 24.
7. Step by step: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is $A = 9^2 = 81$. So the final answer is 81.
8. Take it one move at a time: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is $A = b \times h = 7 \times 4 = 28$. So the final answer is 28.
9. Start by naming the process: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is $A = 12 \times 5 = 60$. So the final answer is 60.
10. A good way to think about this is: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is $P = 2(12 + 5) = 2(17) = 34$. So the final answer is 34.
11. Step by step: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is $P = 4(10) = 40$. So the final answer is 40.
12. Take it one move at a time: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is $A = 6 \times 5 = 30$. So the final answer is 30.
13. Start by naming the process: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is $A = 8^2 = 64$. So the final answer is 64.
14. A good way to think about this is: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is $P = 2(7 + 3) = 2(10) = 20$. So the final answer is 20.
15. Step by step: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is $A = 12 \times 10 = 120$ ft². So the final answer is 120 ft².
16. Take it one move at a time: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is $P = 4(5) = 20$ ft. So the final answer is 20 ft.
17. Start by naming the process: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is $P = 2(9 + 4) = 26$ m. So the final answer is 26 m.
18. A good way to think about this is: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is $A = 8 \times 3 = 24$. So the final answer is 24.
19. For a rectangle, area means length times width. The floor is 14 ft by 9 ft, so $A = 14 \cdot 9 = 126$ ft².
20. Perimeter is the distance around the square. A square has four equal sides, so $P = 4(7) = 28$ ft.
21. For a parallelogram, use the base and the perpendicular height, not the slanted side. $A = bh = 10 \cdot 6 = 60$ m².
22. A rectangle has two lengths and two widths around the outside. $P = 2(11 + 4) = 2(15) = 30$ m.
23. The area of a square is side times side. With side 8 inches, $A = 8^2 = 64$ in².
24. The dashed height is perpendicular to the base, so it is the height used in the area formula. $A = 9 \cdot 5 = 45$ cm².
25. Use the rectangle perimeter formula: $P = 2(15 + 6) = 2(21) = 42$ ft.
26. The square area is 49 cm², so the side length is the number whose square is 49. Since $7^2 = 49$, the side is 7 cm.
27. For a rectangle, $A = lw$. The area is 72 and the width is 8, so $72 = 8l$ and $l = 9$ yd.
28. Use $A = bh$ and solve backward. Since $84 = 12h$, divide by 12 to get $h = 7$ m.
29. A fence goes around the outside, so use perimeter: $P = 2(18 + 10) = 2(28) = 56$ ft.
30. The label is a parallelogram, so multiply base by perpendicular height: $A = 13 \cdot 4 = 52$ in².



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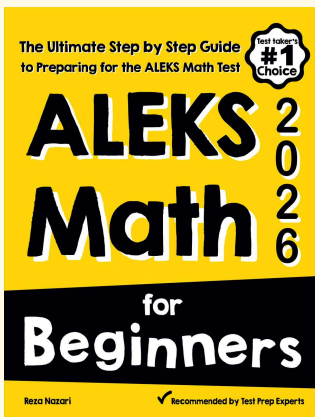
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