

Area and Perimeter of Composite Figures

Name: _____ Date: _____ Score: _____ / 30

Quick Review and Helpful Hints

A *composite figure* is made of simpler shapes. Split it into rectangles and triangles, find each area, then *add* them – or *subtract* a cut-out piece. For perimeter, add the lengths of all the outside edges.

▷ **Example:** An L-shape is a 6×4 rectangle with a 2×2 square removed from a corner. Find its area. **Work:** Big rectangle = $6 \times 4 = 24$. Removed square = $2 \times 2 = 4$. Subtract: $24 - 4 = 20$. ★ **Answer:** 20



Split into rectangles, then add.

◆ Practice Problems

Find each total area.

- | | |
|---|--|
| <p>1. Rectangles 4×3 and 2×3 _____</p> <p>2. Rectangle 5×4 plus square 2×2 _____</p> <p>3. 6×6 square minus 2×2 _____</p> <p>4. Rectangle 8×2 plus rectangle 3×2 _____</p> <p>5. 10×4 minus 4×2 _____</p> <p>6. Squares 3×3 and 5×5 _____</p> <p>7. Rectangle 7×3 plus triangle $b = 4, h = 3$ _____</p> | <p>8. Square 5×5 plus rectangle 5×2 _____</p> <p>9. 12×3 minus 2×3 _____</p> <p>10. Rectangle 6×5 plus 6×1 _____</p> <p>11. Square 4×4 plus triangle $b = 4, h = 2$ _____</p> <p>12. 9×4 minus 3×4 _____</p> <p>13. Rectangle 10×2 plus 4×2 _____</p> <p>14. Rectangles 5×2 and 5×3 _____</p> |
|---|--|

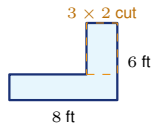
◆ Word Problems

15. A patio is an 8×5 rectangle with a 2×2 planter removed. Find the patio's area. _____
16. An L-shaped room is a 6×4 rectangle plus a 4×3 rectangle. Find its total area. _____
17. A figure is a 10×6 rectangle minus a 4×3 cut-out. Find its area. _____
18. A sign is a 5×4 rectangle with a triangle ($b = 5, h = 2$) on top. Find its total area. _____

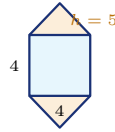


◆ Illustrated Practice

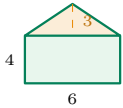
Split each picture into simple shapes. Add areas, or subtract cut-outs.



19. Find the patio area. _____



25. A logo has a square and two triangles. Find the total area. _____



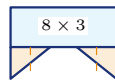
20. A sign has a rectangle and triangle. Find the total area. _____



26. Each stair layer is 2 units high. The layer widths are 9, 6, and 3. Find the area. _____



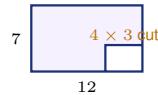
21. Find the frame area. _____



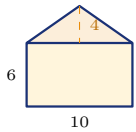
27. The rectangle is 8×3 . Each triangular tail has $b = 3$ and $h = 2$. Find the total area. _____



22. Use the dashed line to split the L-shape into two rectangles. Find the total area. _____



28. Find the area after the cut-out. _____



23. Find the house-front area. _____



29. Find the area of the T-shape. _____



24. Find the shaded area. _____



30. Add the two rectangles. Find the total area. _____



Answer Keys

- | | | |
|--------|--------|--------|
| 1. 18 | 11. 20 | 21. 64 |
| 2. 24 | 12. 24 | 22. 47 |
| 3. 32 | 13. 28 | 23. 80 |
| 4. 22 | 14. 25 | 24. 31 |
| 5. 32 | 15. 36 | 25. 36 |
| 6. 34 | 16. 36 | 26. 36 |
| 7. 27 | 17. 48 | 27. 30 |
| 8. 35 | 18. 25 | 28. 72 |
| 9. 30 | 19. 42 | 29. 44 |
| 10. 36 | 20. 33 | 30. 30 |

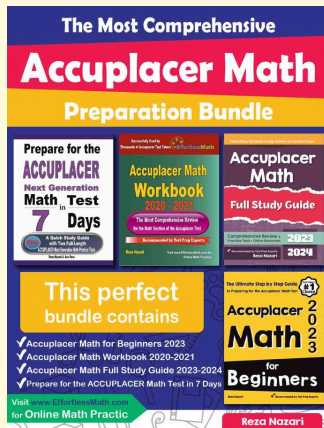
Step-by-Step Explanations

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 $4 \times 3 = 12$ and $2 \times 3 = 6$; total $12 + 6 = 18$. So the final answer is 18.
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 $5 \times 4 = 20$ plus $2 \times 2 = 4$; total 24. So the final answer is 24.
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 $36 - 4 = 32$. So the final answer is 32.
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 $8 \times 2 = 16$ plus $3 \times 2 = 6$; total 22. So the final answer is 22.
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 $40 - 8 = 32$. So the final answer is 32.
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 $9 + 25 = 34$. So the final answer is 34.
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 21 plus $\frac{1}{2}(4)(3) = 6$; total 27. So the final answer is 27.
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 25 plus 10; total 35. So the final answer is 35.
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 $36 - 6 = 30$. So the final answer is 30.
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 30 plus 6; total 36. So the final answer is 36.
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 16 plus $\frac{1}{2}(4)(2) = 4$; total 20. So the final answer is 20.
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 $36 - 12 = 24$. So the final answer is 24.
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 20 plus 8; total 28. So the final answer is 28.
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 $10 + 15 = 25$. So the final answer is 25.
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 $8 \times 5 = 40$ minus 4; total 36. So the final answer is 36.
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 $24 + 12 = 36$. So the final answer is 36.
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 $60 - 12 = 48$. So the final answer is 48.
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 20 plus $\frac{1}{2}(5)(2) = 5$; total 25. So the final answer is 25.
19. Think of the patio as a big 8×6 rectangle with a 3×2 corner removed. The area is $48 - 6 = 42$.
20. Find each part of the sign: the rectangle is $6 \cdot 4 = 24$, and the triangle is $\frac{1}{2}(6)(3) = 9$. Add them for 33.
21. A frame is an outer area minus an inner opening. The outside is $12 \cdot 8 = 96$ and the opening is $8 \cdot 4 = 32$, so the frame area is 64.
22. Split the L-shape into two non-overlapping rectangles. Their areas are $9 \cdot 3 = 27$ and $4 \cdot 5 = 20$, so the total is 47.
23. The house front has a rectangle and a triangle. The rectangle is $10 \cdot 6 = 60$ and the triangle is $\frac{1}{2}(10)(4) = 20$, so the total is 80.
24. Start with the 7×5 rectangle, then remove the 2×2 missing corner. $35 - 4 = 31$.
25. The logo has a 4×4 square and two matching triangles. The square is 16, and the triangles together are $2(\frac{1}{2}(4)(5)) = 20$, so the total is 36.
26. Add the three rectangular steps: $9 \cdot 2 + 6 \cdot 2 + 3 \cdot 2 = 18 + 12 + 6 = 36$.
27. The banner has a rectangle plus two triangles. The rectangle is $8 \cdot 3 = 24$, and the two triangles together add 6, so the total is 30.
28. Use subtraction for the cut-out: the whole rectangle is $12 \cdot 7 = 84$, and the missing piece is $4 \cdot 3 = 12$. The remaining area is 72.
29. The T-shape is made from two rectangles. Add $10 \cdot 2 = 20$ and $4 \cdot 6 = 24$ to get 44.
30. Add the two labeled rectangles: $8 \cdot 3 = 24$ and $3 \cdot 2 = 6$. The total area is 30.



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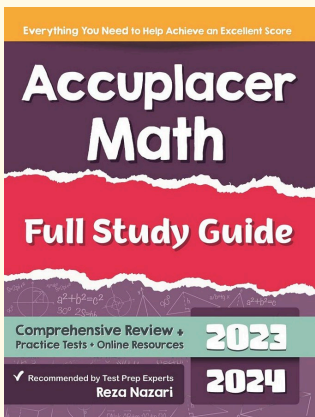


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