

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: $24 - 4$. ★ **Answer:** 20



Split into rectangles, then add.

◆ Practice Problems

Find each total area.

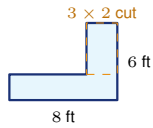
1. Rectangles 4×3 and 2×3 _____2. Rectangle 5×4 plus square 2×2 _____3. 6×6 square minus 2×2 _____4. Rectangle 8×2 plus rectangle 3×2 _____5. 10×4 minus 4×2 _____6. Squares 3×3 and 5×5 _____7. Rectangle 7×3 plus triangle $b = 4, h = 3$ _____8. Square 5×5 plus rectangle 5×2 _____9. 12×3 minus 2×3 _____10. Rectangle 6×5 plus 6×1 _____11. Square 4×4 plus triangle $b = 4, h = 2$ _____12. 9×4 minus 3×4 _____13. Rectangle 10×2 plus 4×2 _____14. Rectangles 5×2 and 5×3 _____

◆ Word Problems

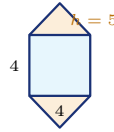
15. A patio is an 8×5 rectangle with a 2×2 planter removed. Find the patio's area. _____16. An L-shaped room is a 6×4 rectangle plus a 4×3 rectangle. Find its total area. _____17. A figure is a 10×6 rectangle minus a 4×3 cut-out. Find its area. _____18. A sign is a 5×4 rectangle with a triangle ($b = 5, h = 2$) on top. Find its total area. _____

◆ Illustrated Practice

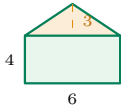
Split each picture into simple shapes. Add areas, or subtract cut-outs.



19. Find the patio area. _____



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



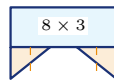
20. A sign has a rectangle and triangle. Find the total area. _____



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



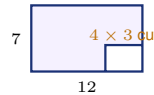
21. Find the frame area. _____



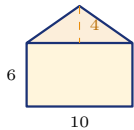
27. The rectangle is 8×3 . Each triangular tail has $b = 3$ and $h = 2$. Find the total area. _____



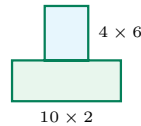
22. Use the dashed line to split the L-shape into two rectangles. Find the total area. _____



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



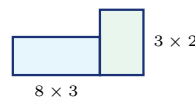
23. Find the house-front area. _____



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

2. 24

3. 32

4. 22

5. 32

6. 34

7. 27

8. 35

9. 30

10. 36

11. 20

12. 24

13. 28

14. 25

15. 36

16. 36

17. 48

18. 25

19. 42

20. 33

21. 64

22. 47

23. 80

24. 31

25. 36

26. 36

27. 30

28. 72

29. 44

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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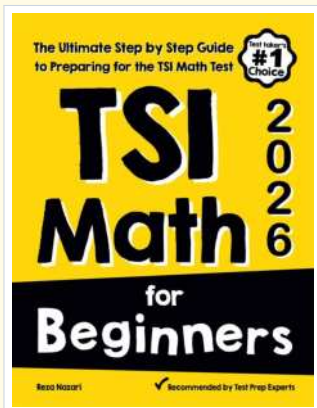
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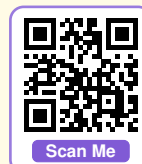
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