

Lesson 5-3 • Group 2

Reinforce Understanding**5.3 Small Group • Group 2**

I can find the area of a trapezoid using the formula $A = \frac{1}{2}(b_1 + b_2) \times h$, explain why the method works, and use it on a problem I have not seen before.

Worked model

An isosceles trapezoid has a top base of 8 m, a bottom base of 14 m, and a height of 6 m. Find the area.

1. Decompose it: a rectangle in the middle and two matching triangles on the ends.
2. Rectangle: top base by height. $8 \times 6 = 48$
3. Leftover bottom: $14 - 8 = 6$, split evenly into two triangle bases of 3 m.
4. Each triangle $\frac{1}{2} \times 3 \times 6 = 9$, so two give 18. $48 + 18 = 66$

Answer: The area of the trapezoid is 66 square meters (66 m^2).

Practice

Complete each exercise. Show the reasoning that supports your answer.

1. Complete the table.

Complete the table. Show how you found each value.

Trapezoid	Base 1	Base 2	Height	Area
Window A	8 ft	4 ft	5 ft	
Window B	12 ft	6 ft	4 ft	
Window C	10 ft		8 ft	72 sq ft
Window D		5 ft	6 ft	48 sq ft

Show your work

2. Match each shape to its area.

Write the letter of the matching item on each line.

1. _____ Trapezoid $b_1=10$, $b_2=6$, $h=4$
 2. _____ Trapezoid $b_1=8$, $b_2=4$, $h=5$
 3. _____ Trapezoid $b_1=12$, $b_2=8$, $h=4$
 4. _____ Triangle $b=14$, $h=6$
 5. _____ Parallelogram $b=9$, $h=5$
 6. _____ Rectangle 7×3
- A32 sq units
 - B30 sq units
 - C40 sq units
 - D42 sq units
 - E45 sq units
 - F21 sq units