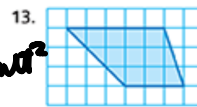
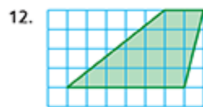
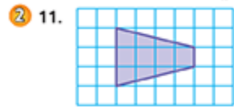


10. **ERROR ANALYSIS** Describe and correct the error in finding the area of the trapezoid.

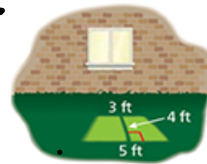
Area = $\frac{1}{2}(6 + 14) = 10 \text{ m}^2$
 $\frac{1}{2}(8)(14) = 80 \text{ m}^2$

Find the area of the trapezoid.



$(4)(2+6) = \frac{32}{2}$

14. **LIGHT** Light shines through a window. What is the area of the trapezoid-shaped region created by the light?



$\frac{1}{2}(4)(5+3)$

Chapter 4 Areas of Polygons

$\frac{1}{2}(4)(8)$

$\frac{1}{2}(32) = 16 \text{ ft}^2$

Find the area of a trapezoid with height h and bases b_1 and b_2 .

15. $h = 6 \text{ in.}$ 16. $h = 22 \text{ cm}$ 17. $h = 12 \text{ mi}$ 18. $h = 14 \text{ m}$
 $b_1 = 9 \text{ in.}$ $b_1 = 10.5 \text{ cm}$ $b_1 = 5.6 \text{ mi}$ $b_1 = 21 \text{ m}$
 $b_2 = 11 \text{ in.}$ $b_2 = 12.5 \text{ cm}$ $b_2 = 7.4 \text{ mi}$ $b_2 = 22 \text{ m}$

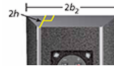
19. **REASONING** The rectangle and the trapezoid have the same area. What is the length ℓ of the rectangle?



20. **OPEN-ENDED** The area of the trapezoidal student election sign is 5 square feet. Find two possible values for each base length.



21. **AUDIO** How many times greater is the area of the floor covered by the larger speaker than by the smaller speaker?



$\frac{1}{2}(9)(24+12)$
 $\frac{1}{2}(9)(36)$

$\frac{1}{2}(924)$
 162 ft^2

Areas of Composite Figures



A **composite figure** is made up of triangles, squares, rectangles, and other two-dimensional figures. Here are two examples.



To find the area of a composite figure, separate it into figures with areas you know how to find. Then find the sum of the areas of those figures.

EXAMPLE 1 Finding the Area of a Composite Figure

Find the area of the purple figure.



PRACTICE

Find the area of the shaded figure.

-
-
-

Find the area of the figure.

-
-
-

7. **ANOTHER METHOD** Find the area in Example 2 using a different method.

Handwritten calculations:
 $\frac{1}{2}(7) = 38.5$
 $38.5 + 88 = 126\frac{1}{2} \text{ cm}^2$

Extension 4.3 Areas of Composite Figures 1