UNIT 5 · STANDARD 6.G.1

Area of Composite Figures

Lesson 5-5

Name: _____ Date: _____ Class: _____

Key Vocabulary

Level 1 support

Picture first, then the word, then a plain-language meaning. Say each word out loud.

An L-shaped room = a 12×8 rectangle joined to a 6×5 rectangle; total area = 96 + 30 = 126 sq ft

Composite Figure

A shape made by putting two or more simple shapes together.

Draw a dashed line across the L-shape to split it into two rectangles — now you can find each area separately

Decompose

To break a shape into smaller, simpler shapes.

T-shaped hallway: top rectangle = 30 sq ft, bottom rectangle = 28 sq ft → total = 30 + 28 = 58 sq ft

Add

Add up the areas of the smaller shapes to get the total.

A 14×10 pool with a 6×4 cutout: 140 − 24 = 116 sq ft of water surface

Subtract

Take away the area of a missing piece from a bigger shape.

Rectangle: $A = l \times w$; Triangle: $A = \frac{1}{2} \times b \times h$; use the right formula for each piece of a composite figure

Formula

A math rule written with symbols.

Key Ideas & Notes

- Your architecture firm is calculating the floor area of an L-shaped room for a client's new home.
- The contractor needs the total area to order the correct amount of flooring.
- The room can be split into two rectangles: one is 12 feet by 8 feet and the other is 6 feet by 5 feet.
- Break each composite figure into simpler shapes. Find the area of each part, then calculate the total area.

Think About It

- What does the shape of the room look like?
- Can you see simpler shapes inside the L-shape?
- What measurements are given for each part?

My Notes

Guided Examples

Example 1

An L-shaped room is made of two rectangles: 10 ft × 6 ft and 4 ft × 3 ft. What is the total area?

Solution: Area 1 = 10 × 6 = 60 sq ft. Area 2 = 4 × 3 = 12 sq ft. Total = 60 + 12 = 72 sq ft.

Answer: A. 72 sq ft

Example 2

A rectangular patio is 15 ft × 10 ft with a 5 ft × 4 ft rectangular flower bed cut out. What is the remaining area?

Solution: Patio = 15 × 10 = 150 sq ft. Cutout = 5 × 4 = 20 sq ft. Remaining = 150 − 20 = 130 sq ft.

Answer: A. 130 sq ft

Example 3

Find the area of an L-shape made of a 5×3 rectangle and a 2×4 rectangle.

Solution: 5 × 3 = 15. 2 × 4 = 8. Total = 15 + 8 = 23 sq units.

Answer: A. 23 sq units

Write About the Math

The Writing Revolution

I can explain my steps using the words composite figure, decompose, add, and subtract.

1. Kernel Sentence

subject + verb

Model: Composite Figure is a shape made by putting two or more simple shapes together.
Figura compuesta es una figura formada al juntar dos o más figuras simples.

Write a kernel sentence about composite figure. Use a subject and a verb.
Escribe una oración base sobre figura compuesta. Usa un sujeto y un verbo.

_____

_____

2. Sentence Expansion

because · but · so

Kernel: Composite Figure matters in math
Figura compuesta importa en matemáticas

Expand the kernel three ways. Add a reason, a contrast, and a result.

because *porque*

Composite Figure matters in math because ____.
Figura compuesta importa en matemáticas porque ____.

_____

but *pero*

Composite Figure matters in math, but ____.
Figura compuesta importa en matemáticas, pero ____.

_____

so *entonces*

Composite Figure matters in math, so ____.
Figura compuesta importa en matemáticas, entonces ____.

_____

3. Sentence Types

4 ways to write a math idea

Statement
Afirmación

Tell one true fact about composite figure.
Di un hecho verdadero sobre composite figure.

Composite figure ____.

Question
Pregunta

Ask a question about composite figure.
Haz una pregunta sobre composite figure.

How does ____ ?
¿Cómo ____ ?

Exclamation
Exclamación

Show excitement about composite figure.
Muestra entusiasmo sobre composite figure.

Wow, ____ !
¡Guau, ____ !

Command
Mandato

Tell a partner what to do with composite figure.
Dile a un compañero qué hacer con composite figure.

First, ____ .
Primero, ____ .

---

4. Explain Your Reasoning

use a sentence starter

I broke the figure into ____.
Dividí la figura en ____.

I added the areas to get ____.
Sumé las áreas para obtener ____.

This helps when ____.
Esto ayuda cuando ____.

Try It

Solve on your own. Check the answer key when you are done.

1. Find the area of an L-shape made of a 5×3 rectangle and a 2×4 rectangle.

A. 23 sq units

B. 15 sq units

C. 8 sq units

D. 20 sq units

Show your work:

2. When should you subtract areas instead of adding them to find the area of a composite figure?

A. When a piece is cut out or removed from a larger shape

B. When the shapes overlap

C. When one shape is larger than the other

D. Always subtract — never add

Show your work:

Stretch Your Thinking

Level 2 enrichment

Challenge task — explain your reasoning in full sentences.

A T-shaped room can be decomposed in two different ways. Show both ways and prove they give the same total area. Use a T-shape where the top is 14 ft × 4 ft and the stem is 6 ft × 10 ft.

Sentence starter: Way 1: I split it into ____ and ____. Areas: ____ + ____ = ____. Way 2: I used a ____ rectangle and subtracted ____. Areas: ____ − ____ = ____. Both give ____ sq ft.

Show your work:

Reflect — Exit Ticket

A composite figure is made of a 9 ft x 7 ft rectangle and a 3 ft x 4 ft rectangle joined together. What is the total area?

A. 75 sq ft

B. 63 sq ft

C. 12 sq ft

D. 75 ft

Your answer:

Answer Key & Teacher Guide

1. **Try It 1:** A. 23 sq units — *5 × 3 = 15. 2 × 4 = 8. Total = 15 + 8 = 23 sq units.*
2. **Try It 2:** A. When a piece is cut out or removed from a larger shape — *Subtract when a piece is removed from a larger shape (like a window cut from a wall). Add when two shapes are joined together (like an L-shape).*
3. **Exit Ticket:** A. 75 sq ft — *Area 1 = 9 x 7 = 63 sq ft. Area 2 = 3 x 4 = 12 sq ft. Total = 63 + 12 = 75 square feet.*

Writing (TWR) — what to look for

- **Kernel sentence:** A complete sentence needs a subject and a verb. Example: Composite Figure is a shape made by putting two or more simple shapes together.
- **Expansion:** *because* gives a reason, *but* shows a contrast or exception, *so* shows a result. Answers vary; each must keep the kernel idea and add the correct kind of detail.
- **Sentence types:** Statement ends with a period, question with "?", exclamation with "!", and a command starts with an action verb (a "bossy" verb).