Module 4 Lesson 13

Objective: Find areas by decomposing into rectangles or completing composite figures to form rectangles.

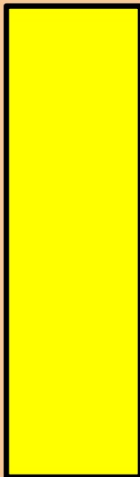# Fluency Practice
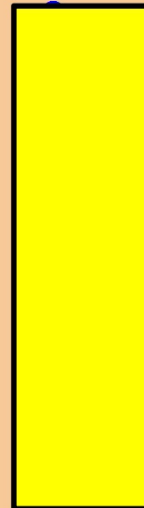
Group Counting:

Let's Count by Threes to 30!

Fluency Practice

Find the Common Products:
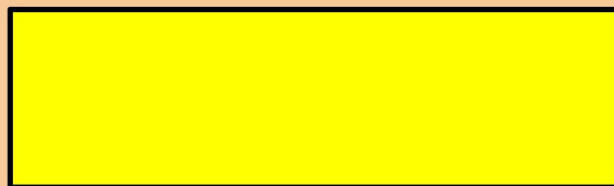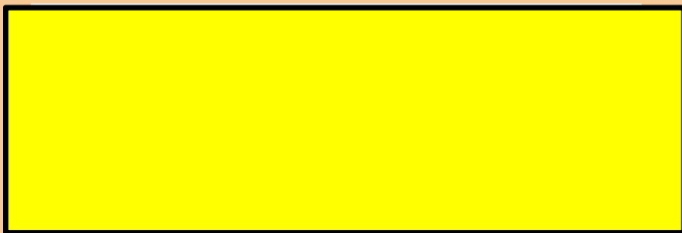
Let's list multiples of 4!   **Let's list multiples of 8!**

Let's draw a line to match the numbers that appear in both columns.
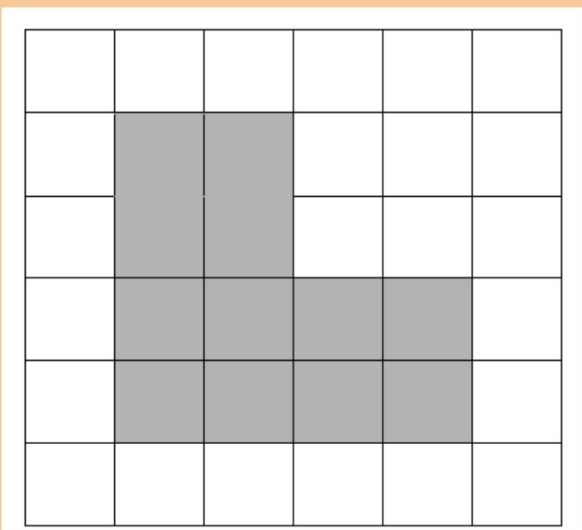
Application Problem

Anil finds the area of a 5 inch by 17 inch rectangle by breaking it into 2 smaller rectangles. Show one way that he could have solved the problem. What is the area of the rectangle?

Concept Development

Problem 1: Add using the break apart strategy to find area of a composite shape.
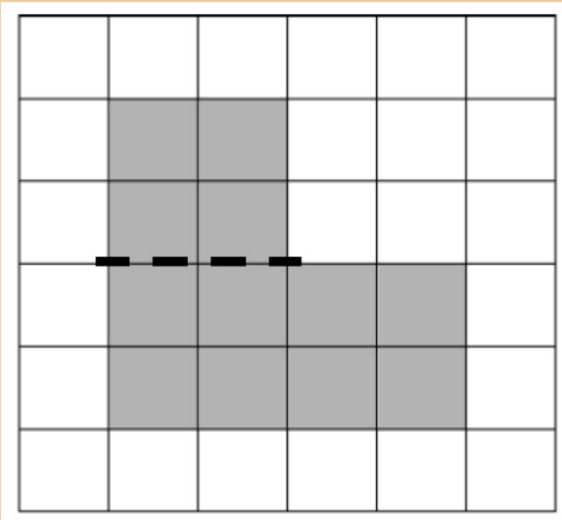
Draw and shade the shape below on your grid template.

**Talk to your partner:
Can we find the area of the shaded figure by multiplying side lengths? How do you know?**

Concept Development

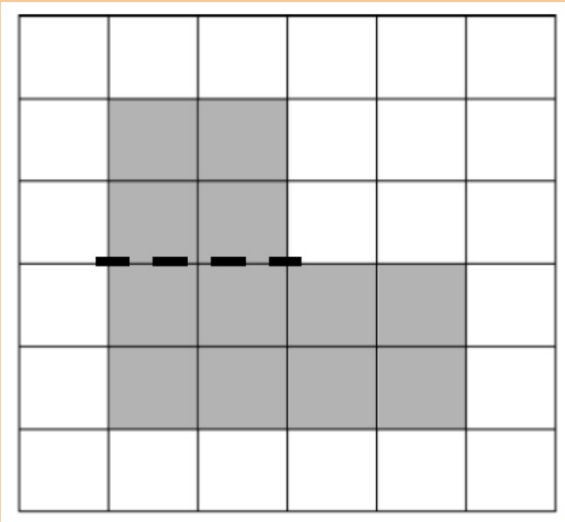**Problem 1: Add using the break apart strategy to find area of a composite shape.**

In the Application Problem, we used the break apart and distribute strategy to find the area of a larger rectangle by breaking it into smaller rectangles.

Turn and talk to your partner: How might we use a strategy like that to find the area of the shaded figure?

Concept Development

Problem 1: Add using the break apart strategy to find area of a composite shape.
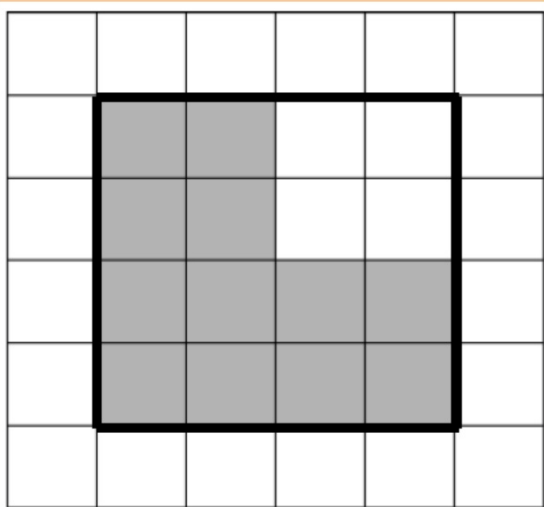

What equation tells you the area of the rectangle on top?

What equation tells you the area of the rectangle on bottom?

How do we use those measurements to find the area of the shaded figure?

Concept Development

Problem 1: Add using the break apart strategy to find area of a composite shape.
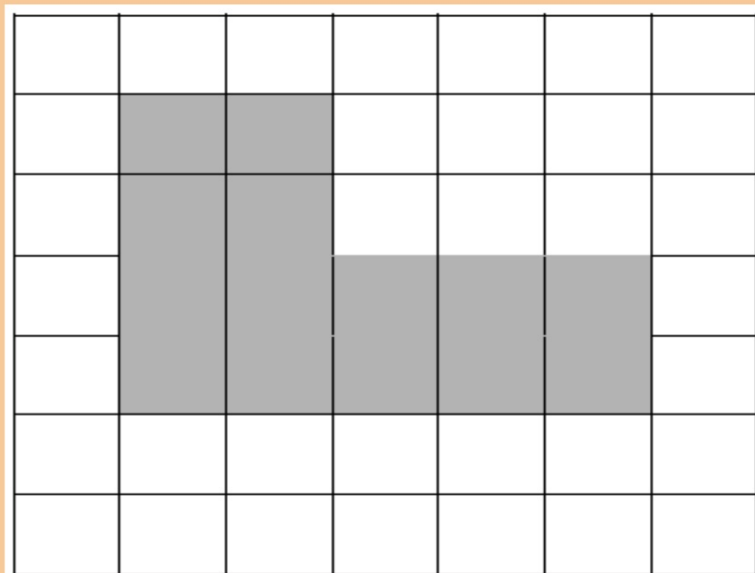

We can also find the area of the shaded figure by thinking about a 4 × 4 square with missing units.
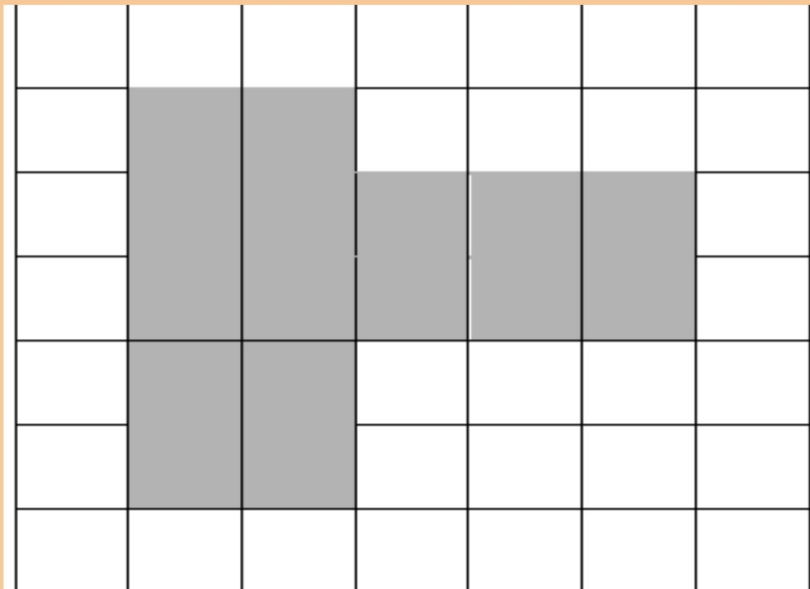
Turn and talk to your partner: How can we find the shaded area using our square?

There are different strategies of finding the area of a figure. It just depends on how you choose to look at it.

Practice Problem

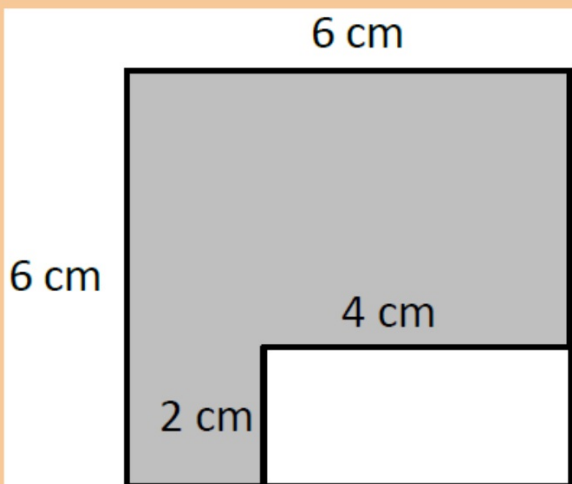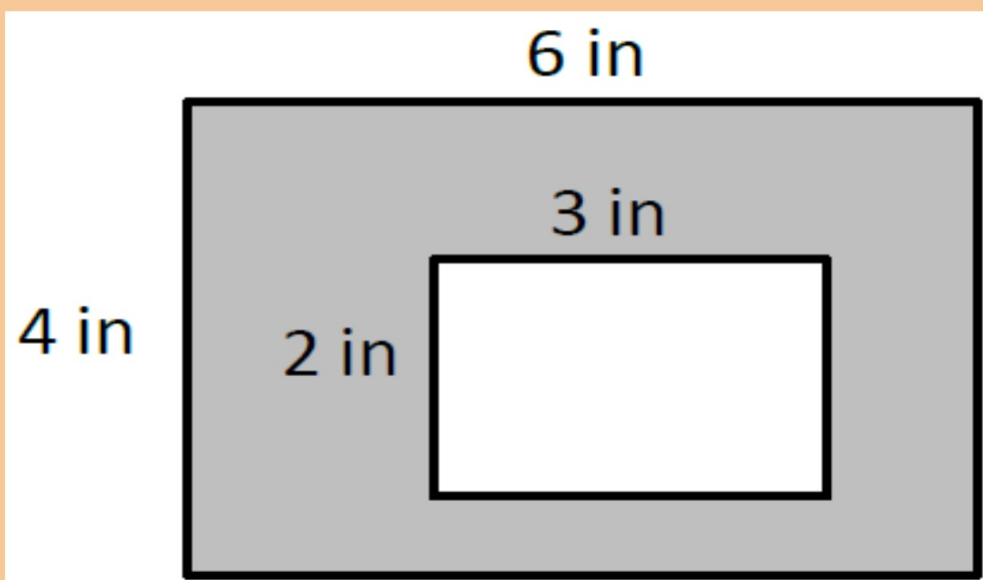# Practice Problem

Practice Problem

Concept Development

Problem 2: Subtract to find the area of a composite shape
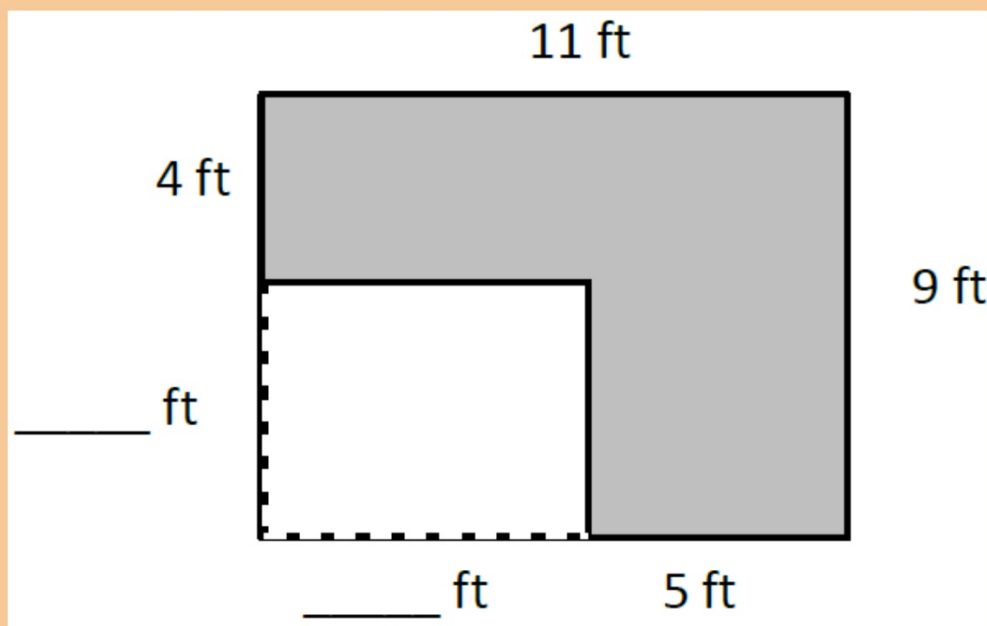

This figure shows a small rectangle cut out of a larger, shaded rectangle. How can we find the area of the shaded figure?

Practice Problem

6 in

3 in

4 in

2 in

Concept Development

Problem 3: Subtract to find the area of a composite shape with missing side lengths

Problem Set

(10 minutes)

Problem Set (Answers)

Figure 1: Area of A + Area of B: ___18___ + ___9___ = ___27___ sq units

Figure 2: Area of C + Area of D: ___18___ + ___15___ = ___33___ sq units

Figure 3: Area of E + Area of F: ___9___ + ___21___ = ___30___ sq units

Figure 4: Area of G + Area of H: ___49___ + ___6___ = ___55___ sq units

Problem Set (Answers)

2. The figure shows a small rectangle cut out of a big rectangle. Find the area of the shaded region.

9 cm

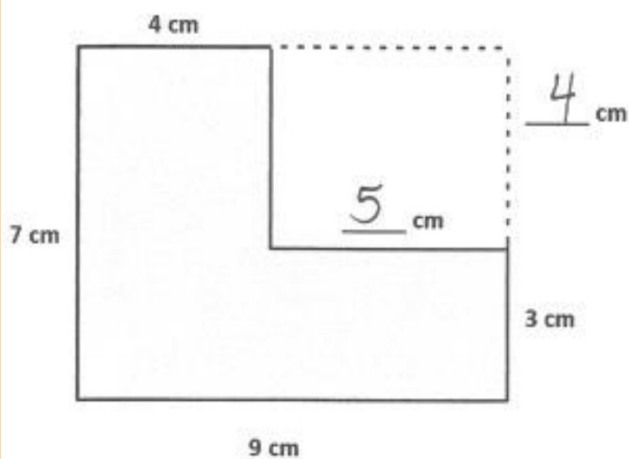10 cm

3 cm

4 cm
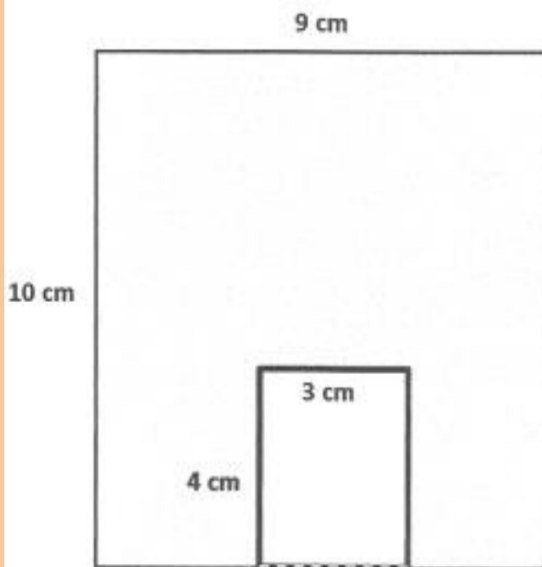
Big rectangle area: $10 \times 9 = 90$ sq cm
Small rectangle area: $4 \times 3 = 12$ sq cm

Area of the shaded region: $\underline{90} - \underline{12} = \underline{78}$ sq cm

Problem Set (Answers)

3. The figure shows a small rectangle cut out of a big rectangle.

4 cm

4 cm

5 cm

7 cm

3 cm

9 cm

a. Label the missing measurements.

b. Area of the big rectangle: __7__ × __9__ = __63__ sq cm

c. Area of the small rectangle: __4__ × __5__ = __20__ sq cm

d. Find the area of the shaded region.   63 - 20 = 43 sq cm

Student Debrief

- How did you break apart the rectangles in Figure 4?. Did anyone break apart the rectangles in a different way?

- In Problem 2, a 4-cm by 3-cm rectangle was cut out of a bigger rectangle. What other measurements could have been cut out to keep the same area for the shaded region?

- How did you find the unknown measurements in Problem 3?

- How were today's strategies examples of using what we know to solve new types of problems?

Exit Ticket

(3 minutes)

Lea Banister
EBR- Sharon Hills Elem.