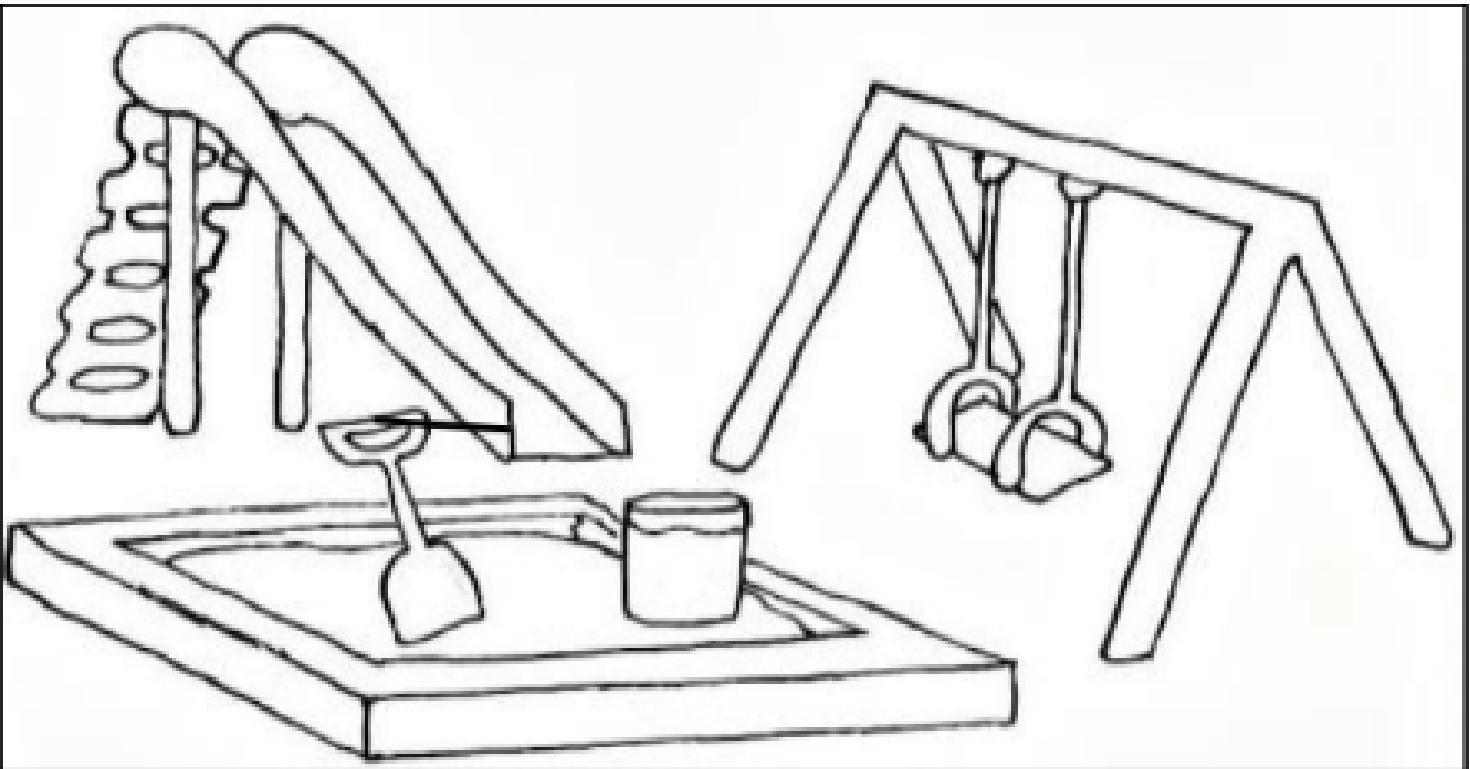
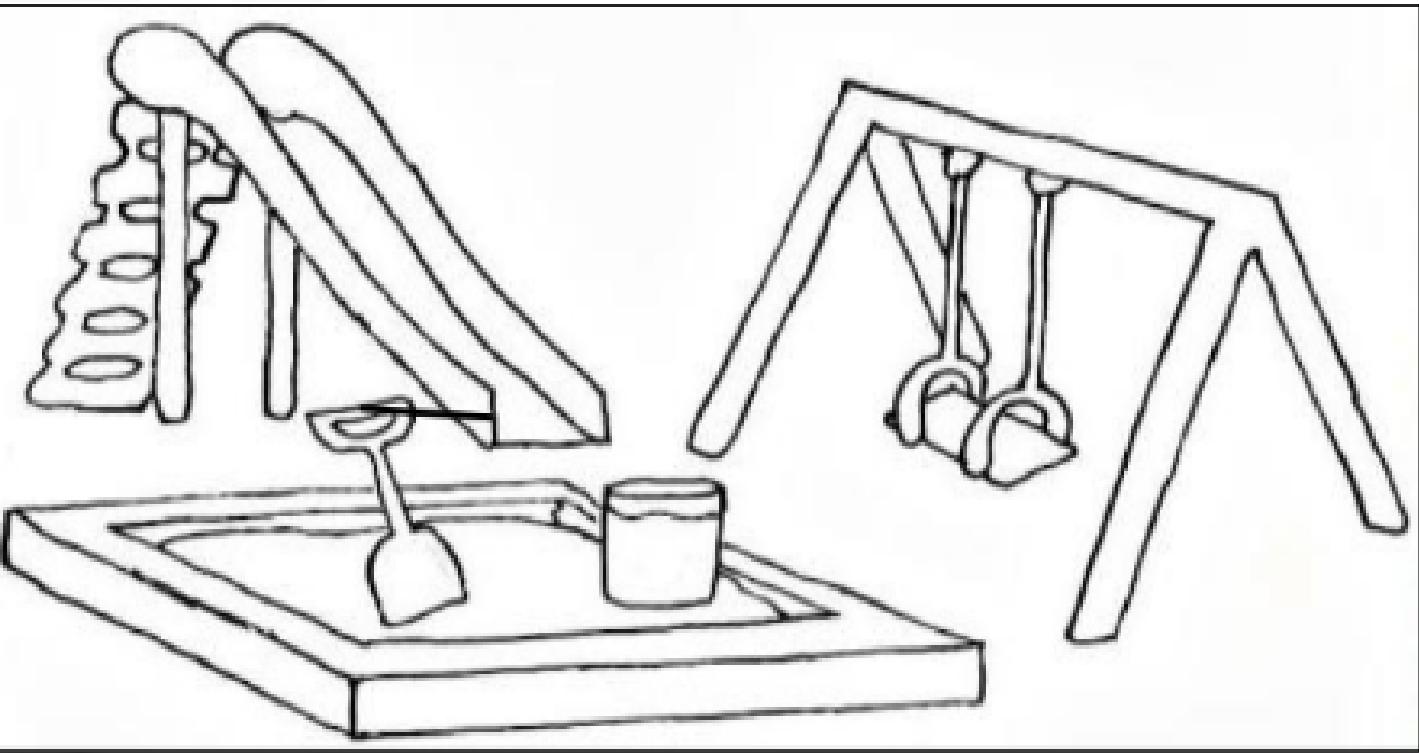


Strategies for solving the area of composite figures

To promote recycling, the Sangguniang Kabataan (SK) members of a barangay decided to beautify the 30 ft by 20 ft children's playground by covering the floor of the play pen with cut pieces of tires except the area of 11-ft square sandbox. What is the area of the portion that will be covered with pieces of tires?





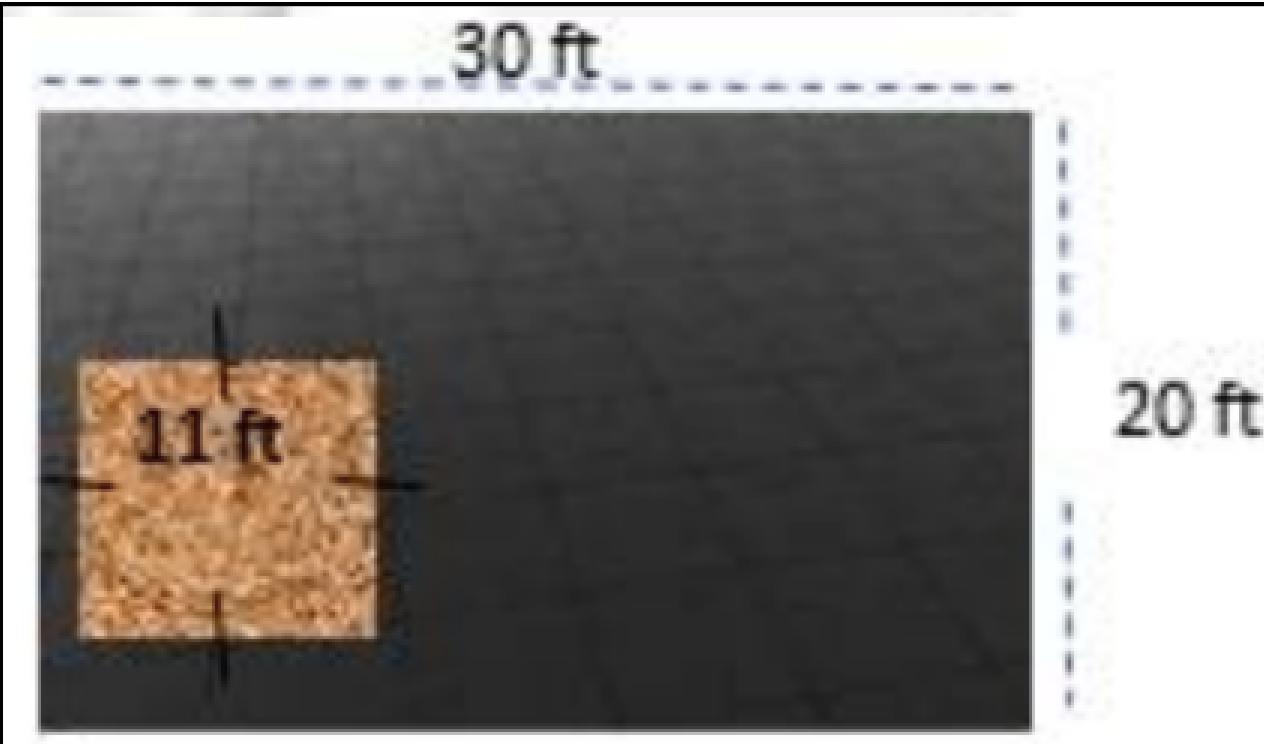
Direction: Answer the following questions:

1. What is the shape of the play pen?
2. What is the shape of the area that will not be covered with pieces of tires?
3. What is asked in the problem?

To promote recycling, the Sangguniang Kabataan (SK) members of a barangay decided to beautify the 30 ft by 20 ft children's playground by covering the floor of the play pen with cut pieces of tires except the area of 11-ft square sandbox. What is the area of the portion that will be covered with pieces of tires?

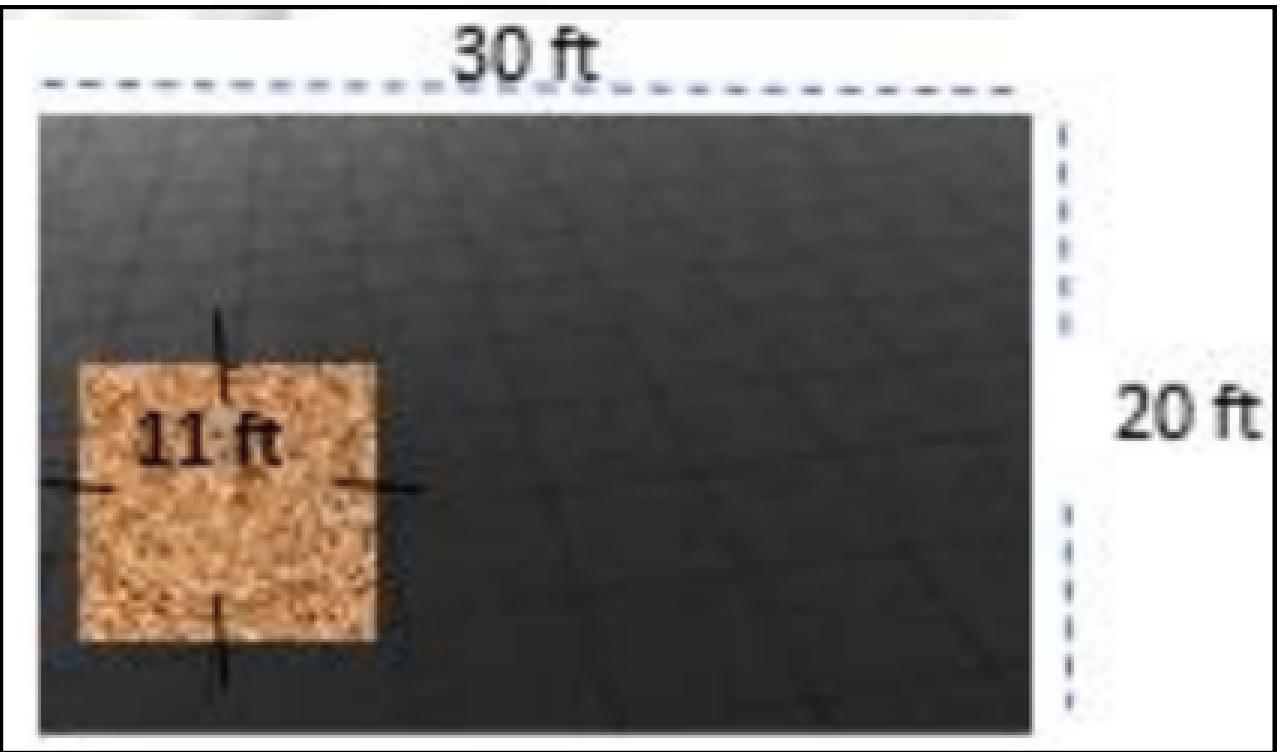
Now, let us solve the problem.

Let us analyze and identify the figures in the problem.



The figures are rectangle and square.

Find the
area of the
two figures.



Area of the rectangle

$$A = l \times w$$

$$A = 30\text{ft} \times 20\text{ft}$$

$$A = 600\text{ft}^2$$

Area of the square

$$A = s^2$$

$$A = 11\text{ft} \times 11\text{ft}$$

$$A = 121\text{ft}^2$$

Area of the rectangle

$$A = l \times w$$

$$A = 30\text{ft} \times 20\text{ft}$$

$$A = 600\text{ft}^2$$

Area of the square

$$A = s^2$$

$$A = 11\text{ft} \times 11\text{ft}$$

$$A = 121\text{ft}^2$$

Subtract the area of the rectangle and area of the square.

$$A = 600\text{ft} - 121\text{ft} = 479\text{ft}$$

Answer:

The total area of the play pen that will be covered with pieces of tires is **479 ft.**

MORE EXAMPLES

Example 1:

A swimming pool, 44 meters long and 17 meters wide has a footpath of 2 meters surrounding it. What is the total area of the footpath?

EXAMPLE 1:

A swimming pool, 44 meters long and 17 meters wide has a footpath of 2 meters surrounding it. What is the total area of the footpath?

Analyze the problem:

1. Understand the problem

- a. What is asked:
 - Total the area of the footpath.
- b. What are given:
 - Swimming pool with 44m long and 17m wide 2m footpath around the swimming pool.

EXAMPLE 1:

A swimming pool, 44 meters long and 17 meters wide has a footpath of 2 meters surrounding it. What is the total area of the footpath?

Analyze the problem:

2. Plan

How are you going to solve the problem?

- a. Draw the figure of the swimming pool and the footpath around it.
- b. Solve the area of the swimming pool.
- c. Solve the area of the swimming pool surrounded by footpath.

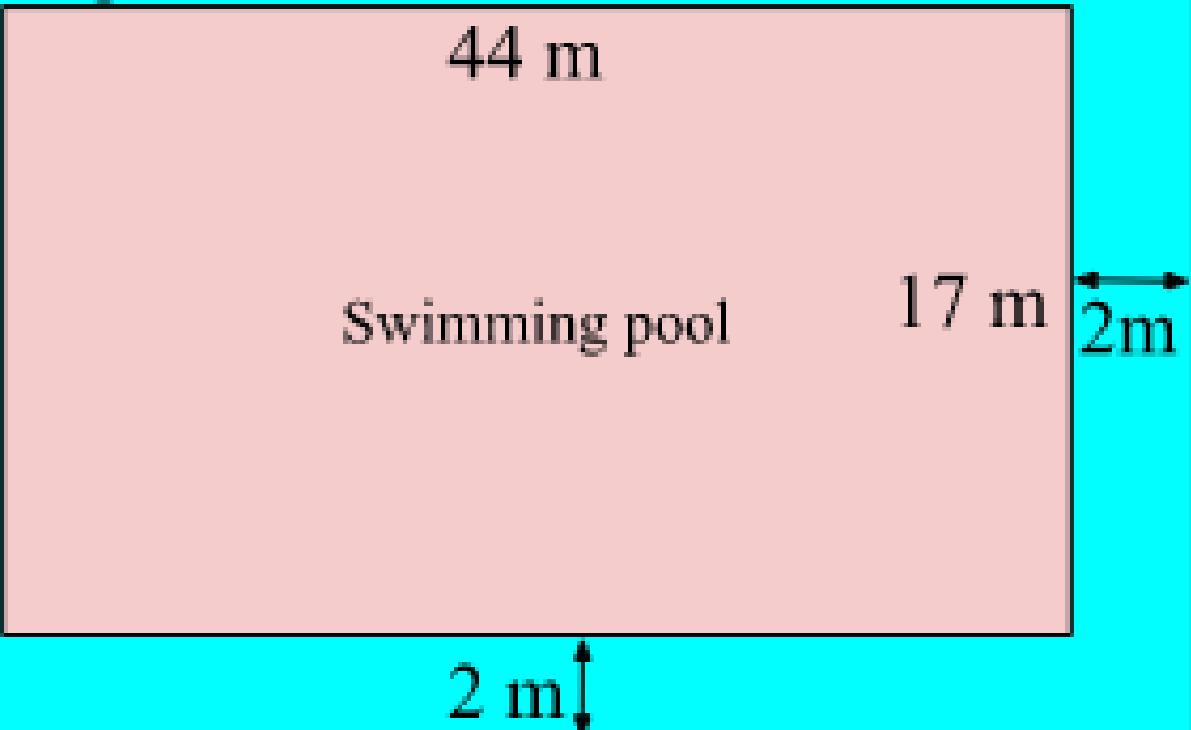
EXAMPLE 1:

A swimming pool, 44 meters long and 17 meters wide has a footpath of 2 meters surrounding it. What is the total area of the footpath?

Analyze the problem:

2. Plan

Foot path



EXAMPLE 1:

A swimming pool, 44 meters long and 17 meters wide has a footpath of 2 meters surrounding it. What is the total area of the footpath?

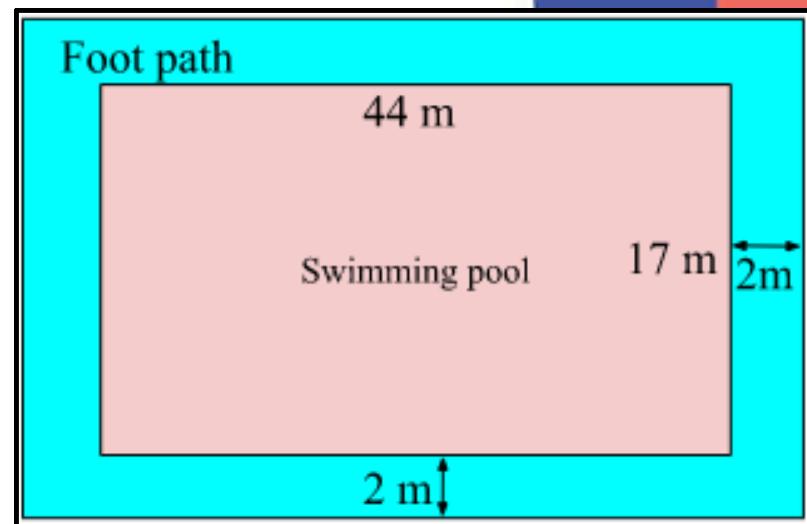
Analyze the problem:

3. Solve

Show your solution.

Area of the
swimming pool

$$\begin{aligned}A &= l \times w \\A &= 44m \times 17m \\A &= 748m^2\end{aligned}$$



EXAMPLE 1:

A swimming pool, 44 meters long and 17 meters wide has a footpath of 2 meters surrounding it. What is the total area of the footpath?

Analyze the problem:

3. Solve

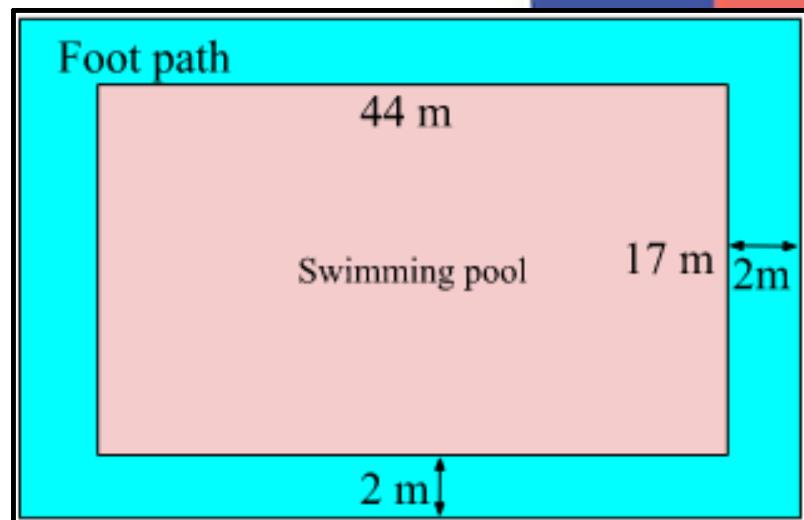
Show your solution.

Area of the swimming
pool with a footpath

$$A = (44m + 2m + 2m) \times (17m + 2m + 2m)$$

$$A = 48m \times 21m$$

$$A = 1008m^2$$



EXAMPLE 1:

A swimming pool, 44 meters long and 17 meters wide has a footpath of 2 meters surrounding it. What is the total area of the footpath?

Analyze the problem:

3. Solve

Subtract the area of the swimming pool from the area of the swimming pool surrounded by a footpath to find the area of the footpath.

$$A = 1008m^2 - 748m^2$$

$$A = 260m^2$$

Answer: The area of the footpath is **260m²**.

Example 2:

Ella has a rectangular sheet of paper with a length of 16cm and a width of 11cm. She cuts out a small rectangular piece measuring 7cm by 6cm at one corner of the paper.

Find the remaining area of the paper.

EXAMPLE 2:

Ella has a rectangular sheet of paper with a length of 16cm and a width of 11cm. She cuts out a small rectangular piece measuring 7cm by 6cm at one corner of the paper. Find the remaining area of the paper.

Analyze the problem:

1. Understand the problem

- a. What is asked:
 - The remaining area of the paper.
- b. What are given:
 - A sheet of paper 16cm by 11cm? A rectangular piece 7cm by 6cm to be cut at the one corner of the paper.

EXAMPLE 2:

Ella has a rectangular sheet of paper with a length of 16cm and a width of 11cm. She cuts out a small rectangular piece measuring 7cm by 6cm at one corner of the paper. Find the remaining area of the paper.

Analyze the problem:

2. Plan

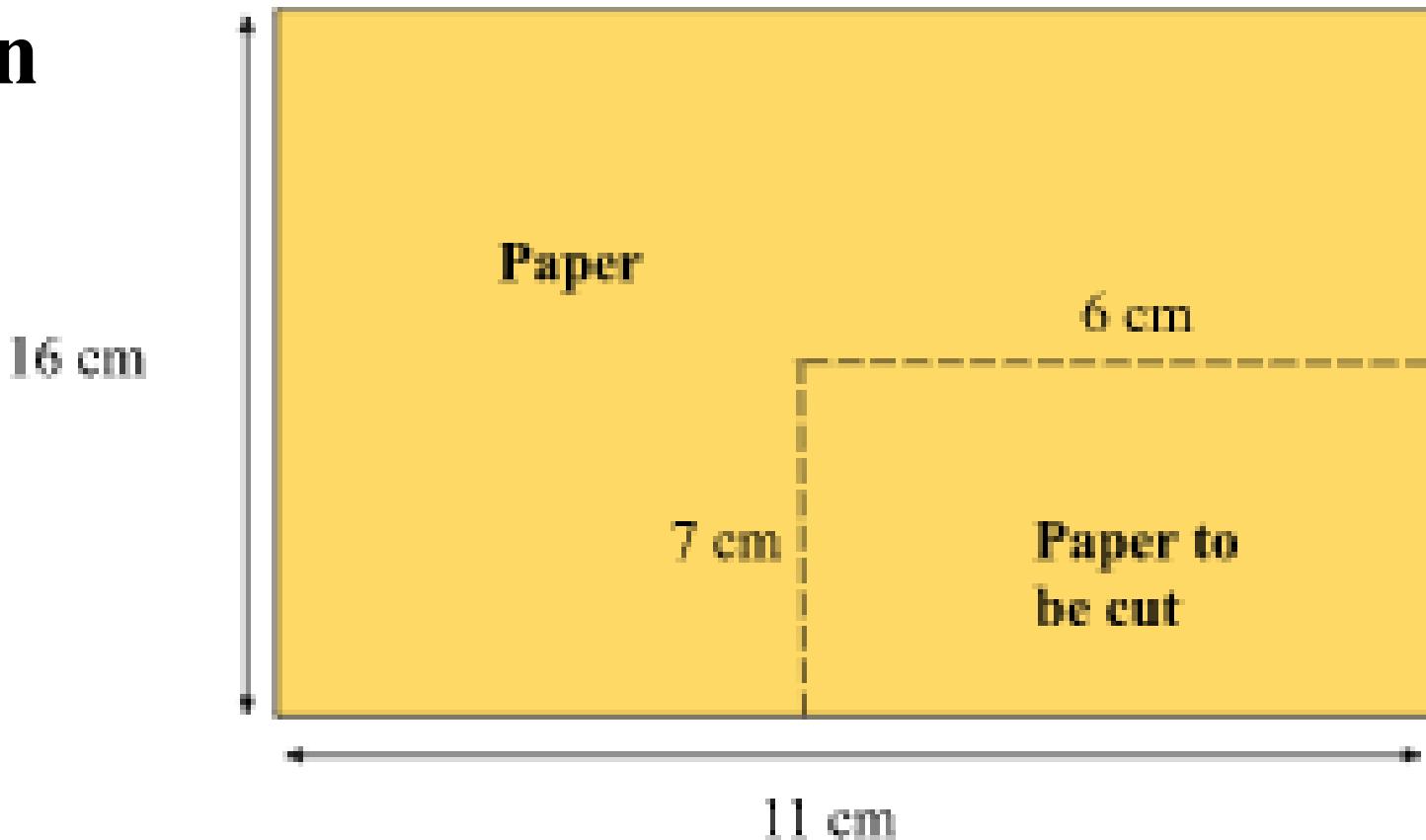
- a. Draw the figure.
- b. What are given:
- c. Find the area of the part to be cut.

EXAMPLE 2:

Ella has a rectangular sheet of paper with a length of 16cm and a width of 11cm. She cuts out a small rectangular piece measuring 7cm by 6cm at one corner of the paper. Find the remaining area of the paper.

Analyze the problem:

2. Plan



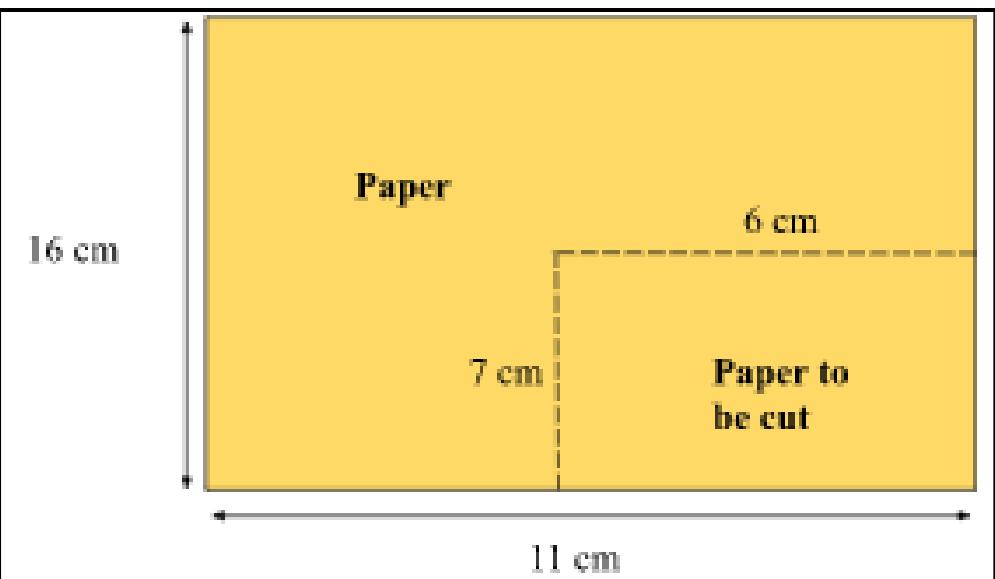
EXAMPLE 2:

Ella has a rectangular sheet of paper with a length of 16cm and a width of 11cm. She cuts out a small rectangular piece measuring 7cm by 6cm at one corner of the paper. Find the remaining area of the paper.

Analyze the problem:

3. Solve

Show your solution.



a. Area of the paper

$$\begin{aligned}A &= l \times w \\A &= 16\text{cm} \times 11\text{cm} \\A &= 176\text{cm}^2\end{aligned}$$

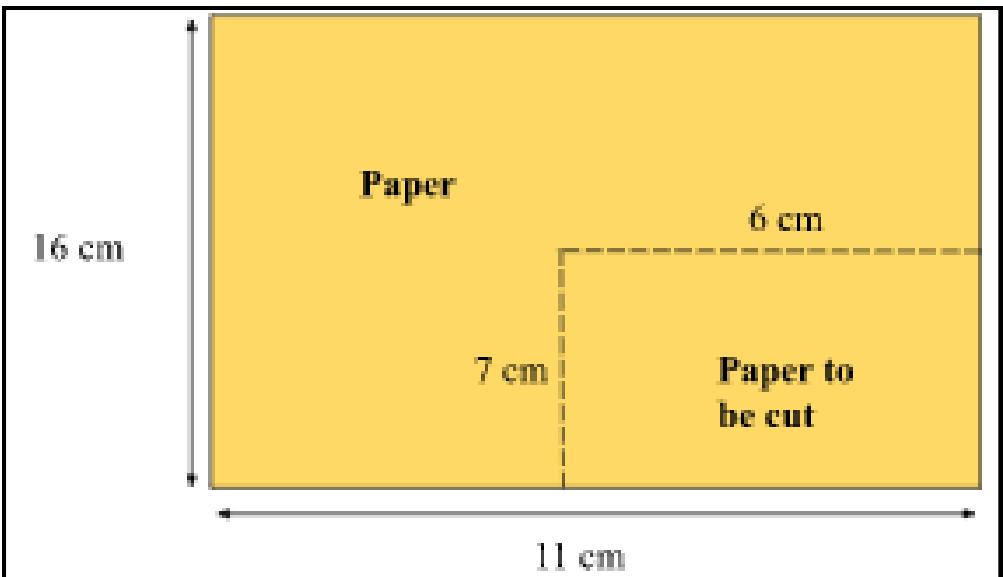
EXAMPLE 2:

Ella has a rectangular sheet of paper with a length of 16cm and a width of 11cm. She cuts out a small rectangular piece measuring 7cm by 6cm at one corner of the paper. Find the remaining area of the paper.

Analyze the problem:

3. Solve

Show your solution.



b. Area of the part to

be cut

$$A = l \times w$$

$$A = 7\text{cm} \times 6\text{cm}$$

$$A = 42\text{cm}^2$$

EXAMPLE 2:

Ella has a rectangular sheet of paper with a length of 16cm and a width of 11cm. She cuts out a small rectangular piece measuring 7cm by 6cm at one corner of the paper. Find the remaining area of the paper.

Analyze the problem:

3. Solve

Subtract the area of the part to be cut from the area of the paper.

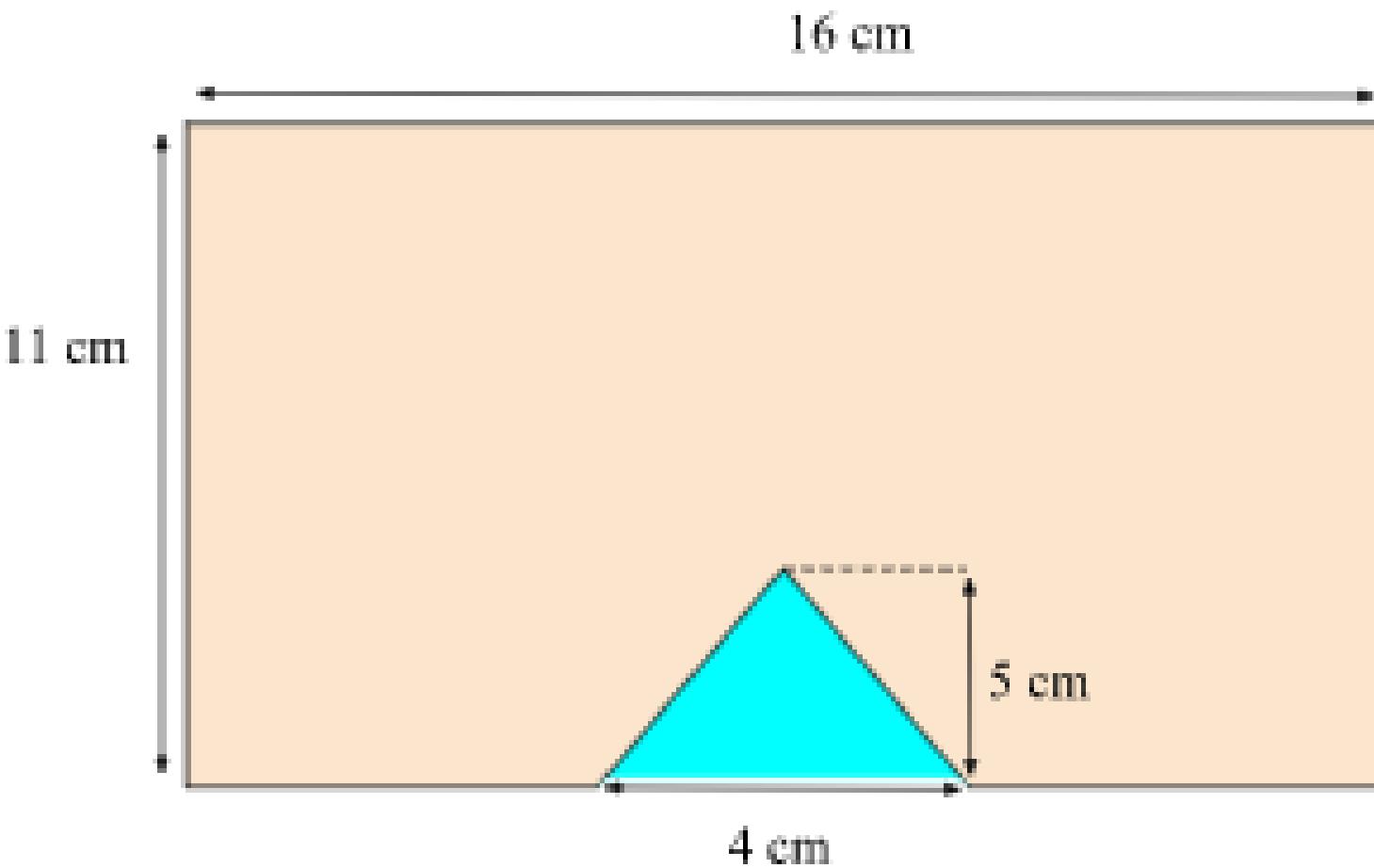
$$A = 176\text{cm}^2 - 42\text{cm}^2$$

$$A = 134\text{cm}^2$$

Answer: The remaining area of the paper is
134 cm².

Example 3:

Find the area of the colored region.



EXAMPLE 3:

Find the area of the colored region.

Analyze the problem:

1. Understand the problem

a. What is asked:

- The area of the shaded region.

b. What are given:

- Dimensions of the rectangle 16cm by 11cm and the dimensions of the triangle $b = 4\text{cm}$ $h = 5\text{cm}$

EXAMPLE 3:

Find the area of the colored region.

Analyze the problem:

2. Plan

- a. Find the area of the whole rectangle.
- b. Find the area of the rectangle part to be subtracted.

EXAMPLE 3:

Find the area of the colored region.

Analyze the problem:

3. Solve

a. Area of the rectangle

$$A = l \times w$$

$$A = 11 \times 16$$

$$A = 176\text{cm}^2$$

EXAMPLE 3:

Find the area of the colored region.

Analyze the problem:

3. Solve

b. Area of the triangle

$$A = \frac{1}{2}bh$$

$$A = \frac{1}{2}(4 \times 5)$$

$$A = 20 \div 2$$

$$A = 10\text{cm}^2$$

EXAMPLE 3:

Find the area of the colored region.

Analyze the problem:

3. Solve

Subtract the area of the triangle to the area of the rectangle.

$$A = 176\text{cm}^2 - 10\text{cm}^2$$

$$A = 166\text{cm}^2$$

Answer: The area of the colored region is
 166 cm^2 .