Subject: Mathematics

Level: Standard Four

Strand: Measurement

Topic: **Area**

At the end of this worksheet, you will be able to:

- Solve problems involving the area of a rectangle.

- Solve problems involving the area of irregular shapes.

Key Points:

- **Area** is the amount of space taken up by a shape or surface and it is measured in **square units** e.g. cm^2 or m^2.

- If we were given a shape drawn on a grid, we can find the area by counting the number of square units used to make the shape.

- The area of a rectangle may be calculated by multiplying the length by its width: **Area = Length x Width**.

- If the area and the length, or the area and the width of a rectangle are given, we can calculate the missing dimension by using either of the formulae below:

  - **Length = Area ÷ Width**

  - **Width = Area ÷ Length**

- If the area of a square is given, the length of the side of the square is the **square root** of the area i.e. **Side = √Area.**
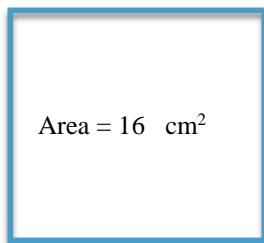
Example 1

What is the area of the rectangle showed below?
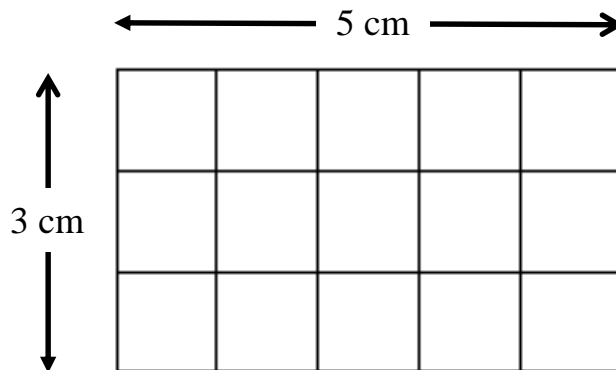
- In this example we can find the area by counting the square units:

  Counting gives us **15 cm²**

- We can also find the area by using the formula **A = L x W**:

  When L = 5 cm and W = 3 cm
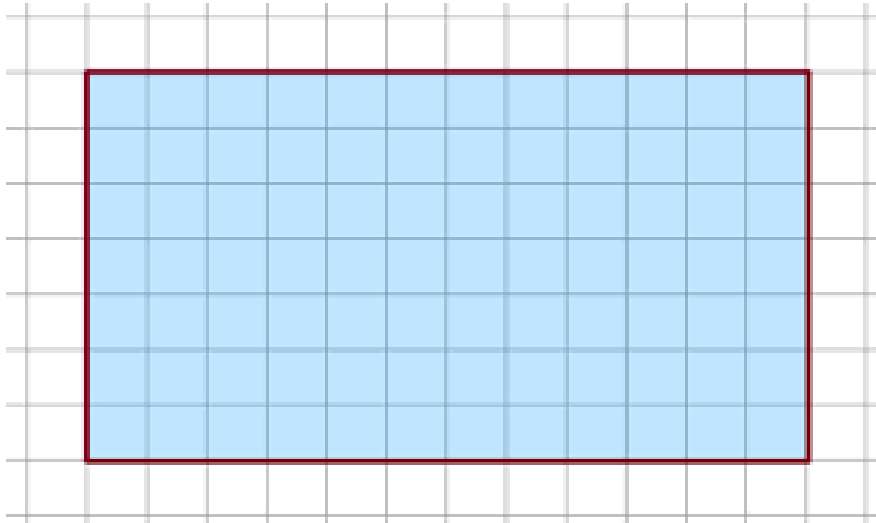
  Area = 5 cm x 3 cm = **15 cm²**

Example 2

What is the length of the side of the square shown below?
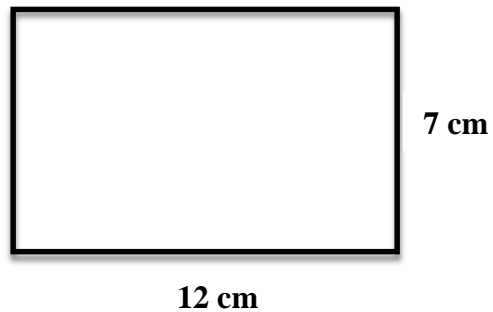

Side = √Area

= √16

= **4 cm**

ACTIVITY 1

1. State, in square units, the area of the blue rectangle on the grid below.
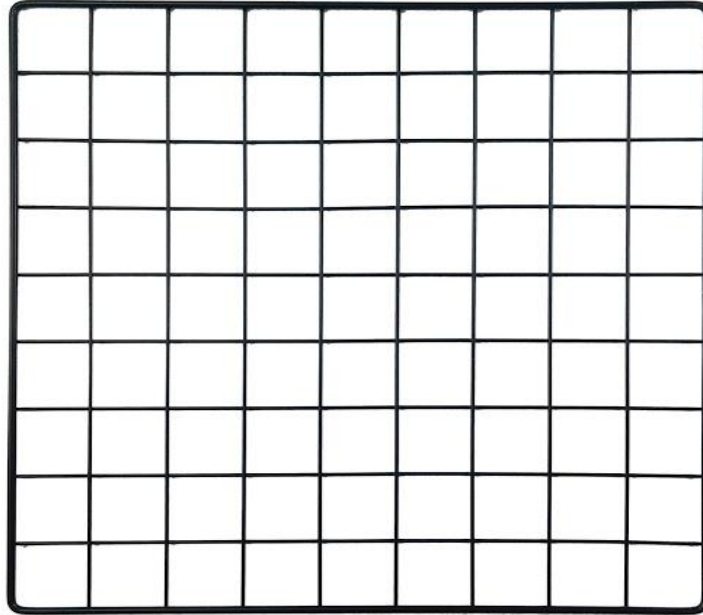

Answer _____

2. Calculate the area of the rectangle shown.
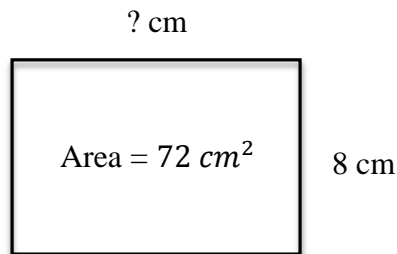

7 cm

12 cm

Answer _____

3. Draw a rectangle on the grid so that the area of the rectangle is 20 square units and the length of one side is 4 units.

4. What is the **length** of the rectangle if its **area** is 72 cm^2 and its width is 8 cm?

? cm

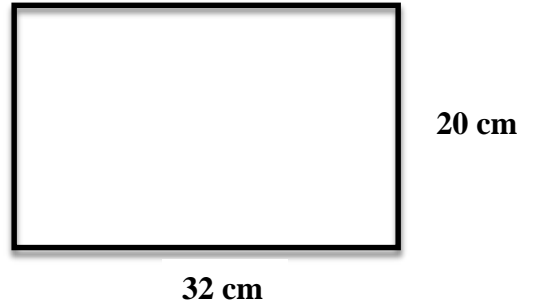Area = $72\ cm^2$ 8 cm

Answer _____

5. What is the area of the rectangle to the right?

    a) 640 cm^2

    b) 52 cm^2
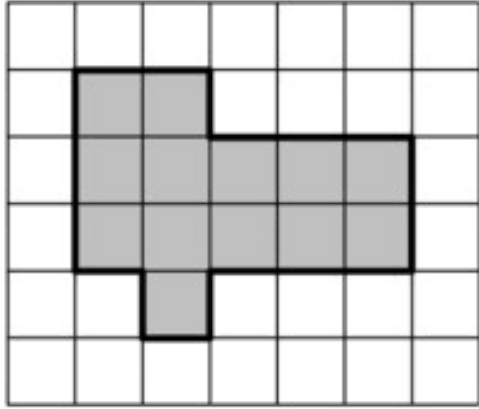
    c) 640 m^2

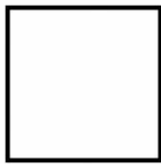   d) 52 m^2

20 cm

32 cm

ACTIVITY 2

1. In the figure below, each square represents 1 cm^2.

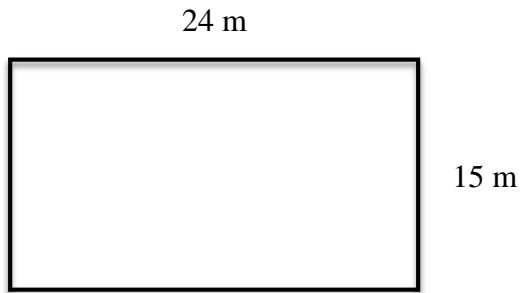   What is the area of the shaded region?

   Answer _____

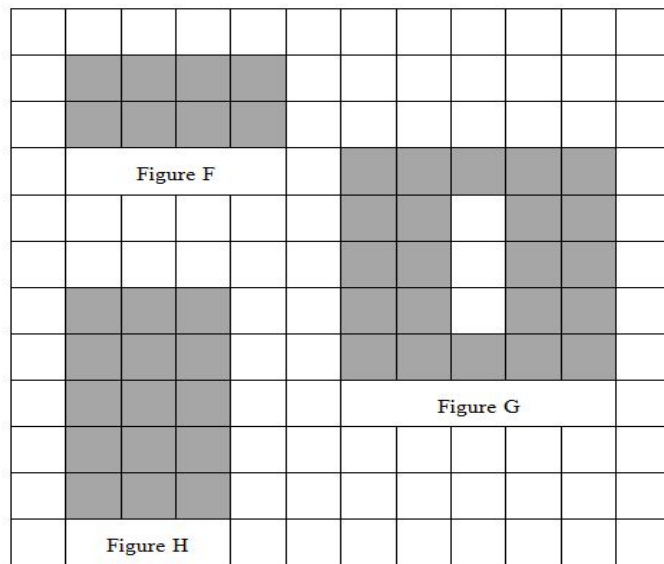2. The **area** of the square below is 64 cm^2. What is the **length** of **each** side?

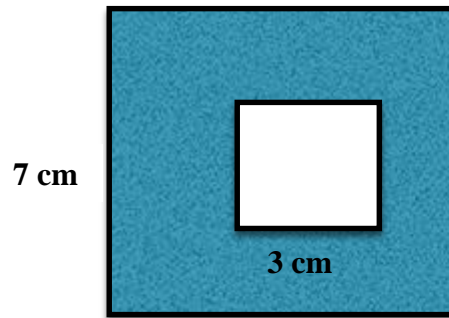   Answer _____

3. Calculate the area of the shape below.

24 m

15 m

Answer _____

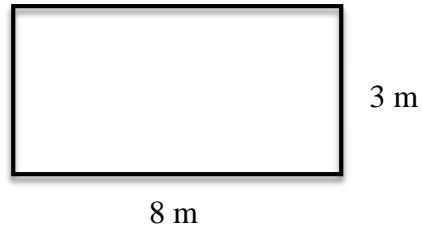4. Which of the following figures has an area of 22 cm²?

Answer _____

5. A small square is located inside a bigger square. The length of one side of the small square is 3 cm and the length of one side of the big square is 7 cm. What is the area of the shaded region?

7 cm

3 cm

Answer _____

ASSESSMENT

1. What is the area of the rectangle shown?

    3 m

    8 m

    Answer _____

2. The area of a rectangle is 91 m^2. If the length is 13 m, what is the width of the rectangle?

    Answer _____

3. Aaron's father built a rectangular tool shed. The area of the floor measures 182 square metres and its width measures 13 metres. What is the length of the tool shed?

    Answer _____

4. The area of the rectangle below is 96 cm². The length is 12 cm, find the width (W) of the rectangle.

12 cm

96 cm^2 W
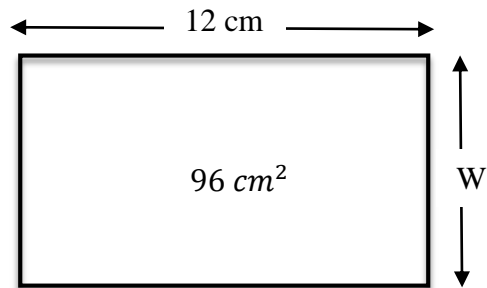
Answer _____

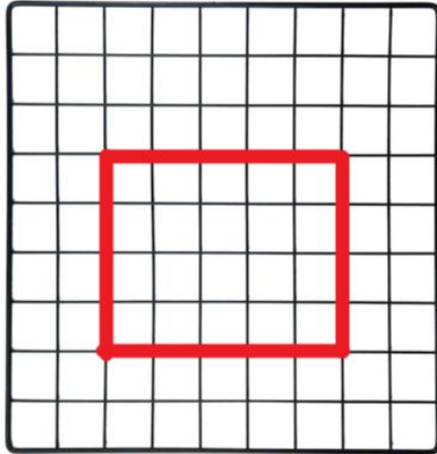5. An envelope is 9 cm long and 6 cm wide. What is the area of the envelope?

Answer _____

ANSWER KEY

ACTIVITY 1

1. **L = 12 cm W = 7 cm.   12 cm x 7 cm = 84 cm^2**

2. Answer: **84 cm^2**

3.

4. 9cm

5. C 640 cm^2

ACTIVITY 2

1. 13 cm^2

2. 8cm

3. 360 m^2

4. Figure G

5. 40 cm^2

ASSESSMENT

1. **24 cm^2**

2. **7 m**

3. **14 m**

4. **8 cm**

5. **54 cm^2**