3rd Basic

4th Advanced

Helping With Math

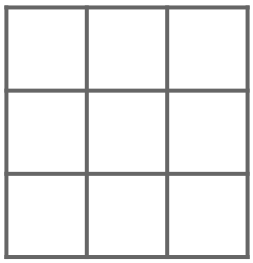
USA GRADES

Measuring Area Using Square Grids

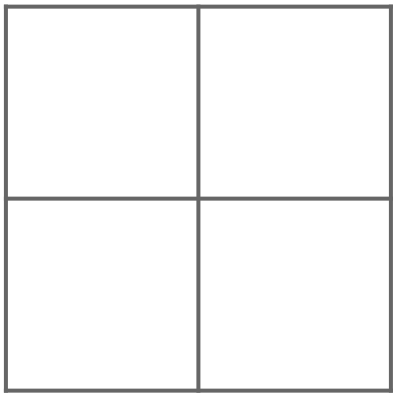
Suitable for students **aged 7-9**

This pack is suitable for learners aged 7-9 years old or 3rd to 4th graders (USA). The content covers fact files and relevant basic and advanced activities involving measuring area using square grids.

- Area refers to the size of the surface. It is the region/space that is bounded by a flat figure. Examples of flat figures are triangles, squares, rectangles, etc.
- A square grid is a grid formed by tiling the plane regularly with squares. Squares come in different sizes. The ones that are commonly used are centimeter grid and inch grid.



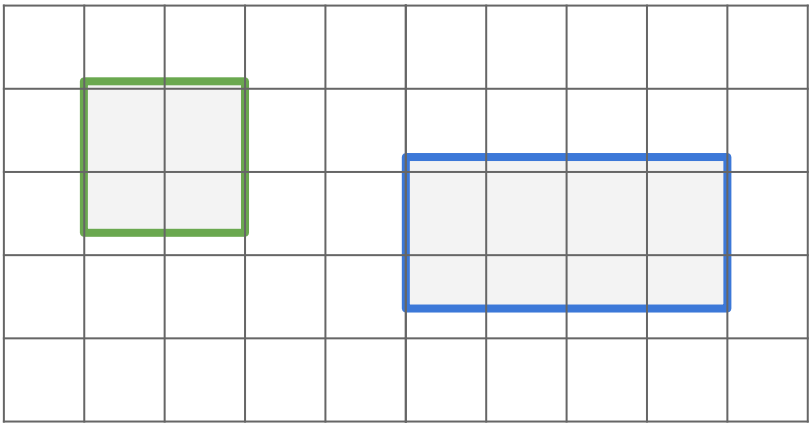
Example of a 3 x 3 centimeter grid



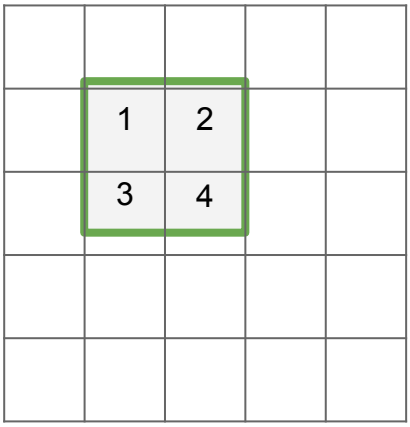
Example of a 2 x 2 inch grid

USING SQUARE GRIDS TO MEASURE AREA

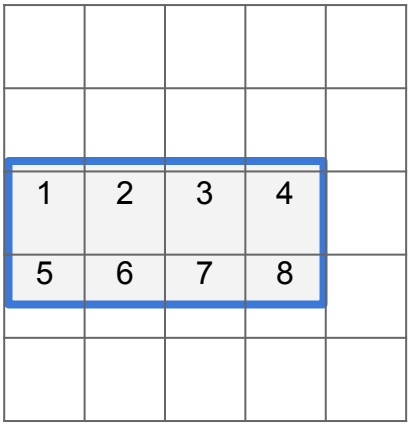
A. Centimeter Grid



What is the area of the green and blue figures?



Answer: To know the area, count how many square grids were covered by the figure. In the case of the green figure, it covers four square grids. Thus **the area of the green figure is 4 sq. cm.**



Answer: To know the area, count how many square grids were covered by the figure. In the case of the blue figure, it covers eight square grids. Thus **the area of the blue figure is 8 sq. cm.**

USING SQUARE GRIDS TO MEASURE AREA

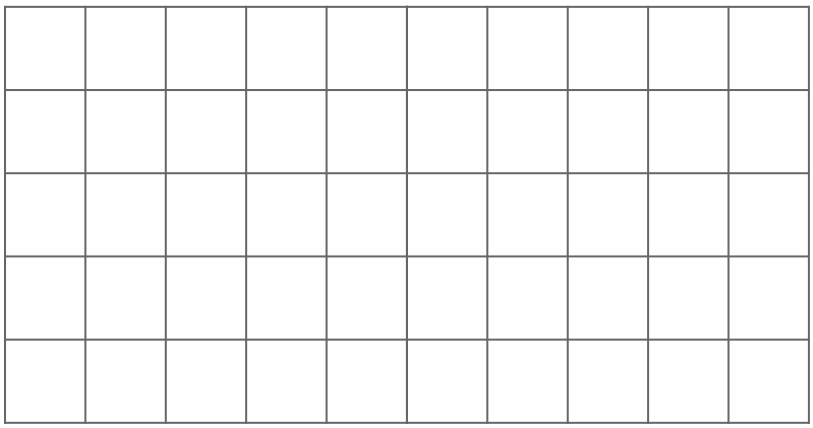
B. Inch Grid

	1	2
3	4	

What is the area of the orange figure?

Answer: The area of the figure is 4 sq. inches.

Your Turn! Create a square whose area is 9 sq. cm. and color it green. Draw any figure whose area is 6 sq. cm. And color it blue.



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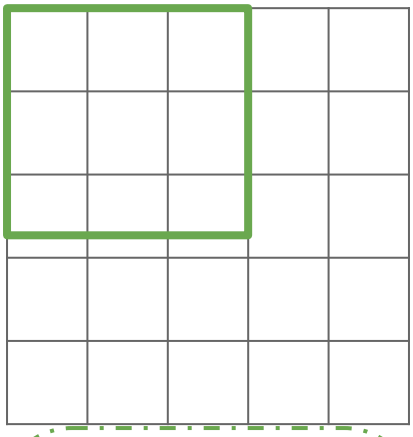
FAIR AND SQUARE

G3
Basic

Examine each square carefully. Determine the area of each square so that a painting freebie will be yours. This is a centimeter grid.

1.



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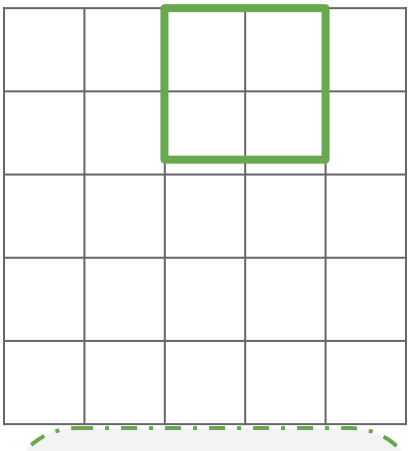

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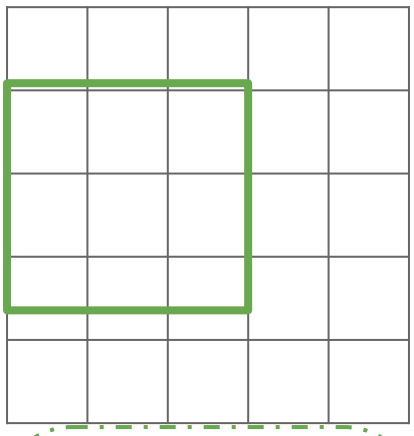

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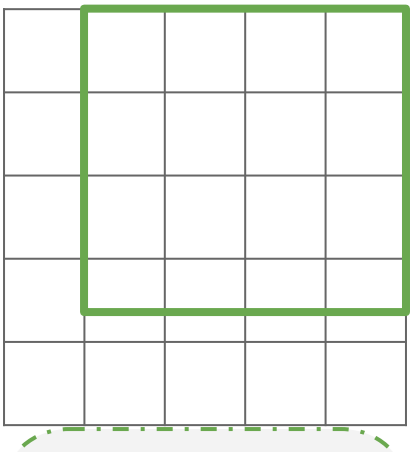

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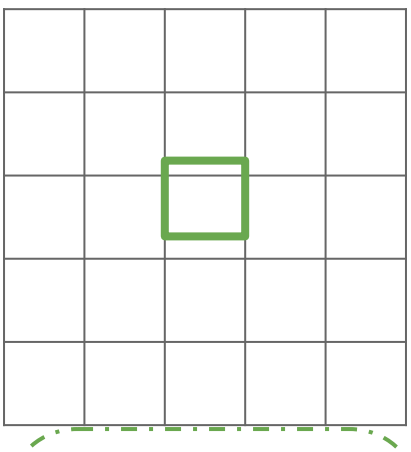

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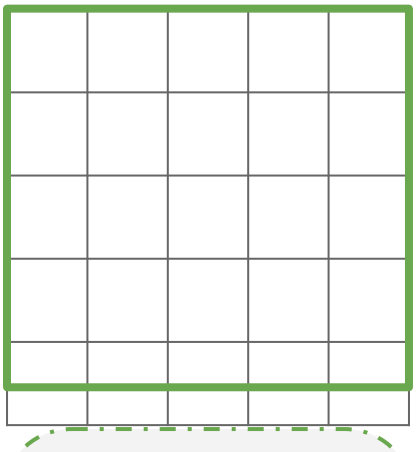
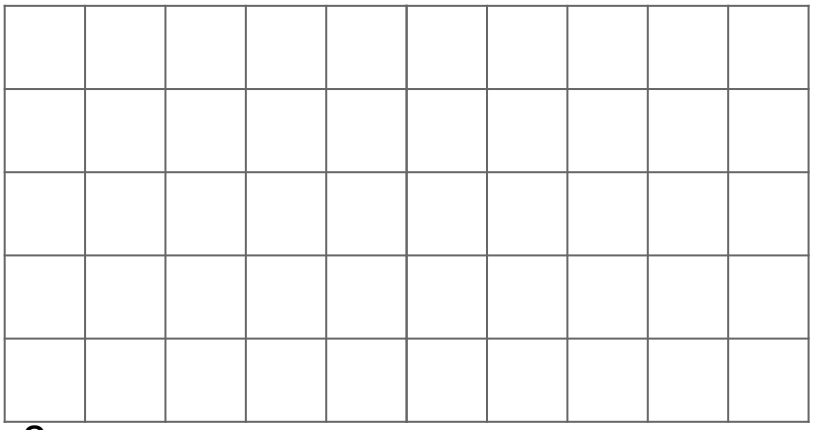


PAINT BY NUMBERS

G3
Basic

Let's do some tasks! In this activity, you need to shade the number of square grids given the area. You may use any color that you prefer.

1.



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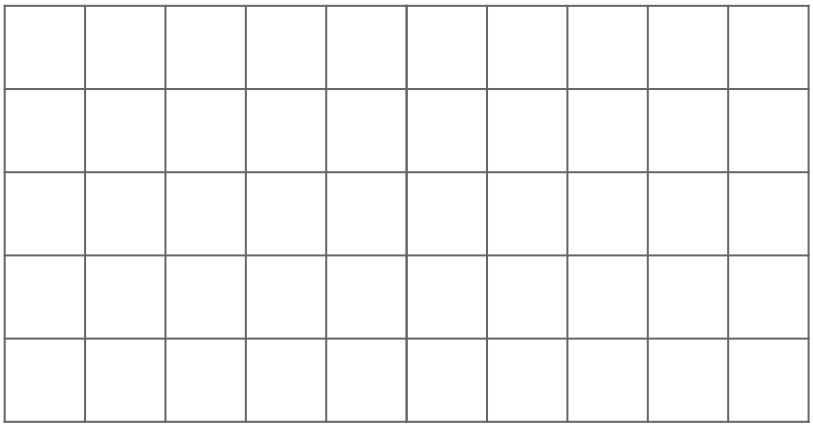

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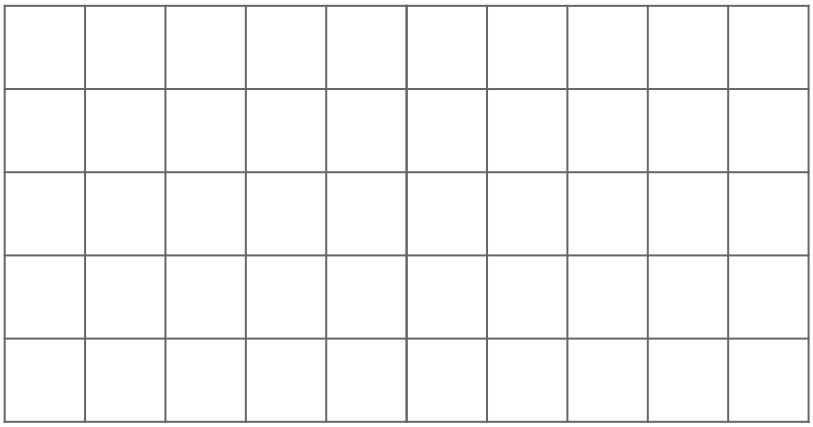
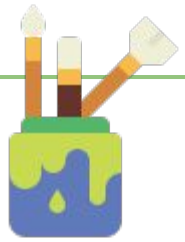
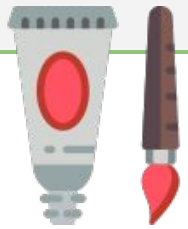


A square whose area is 16 sq. cm.



A square whose side measures 5 cm.

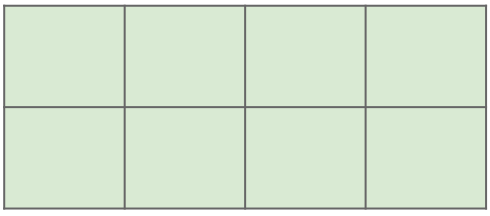


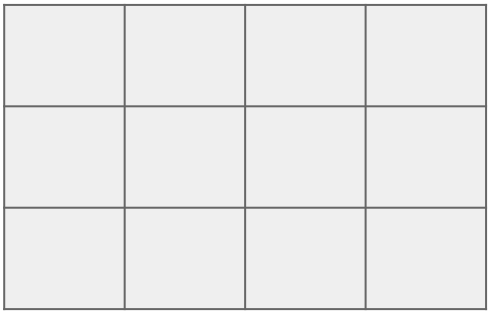
A square whose side measures 3 cm.

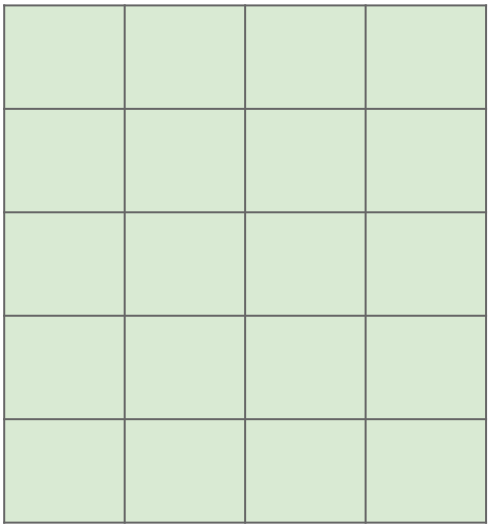
MINGLING WITH RECTANGLES

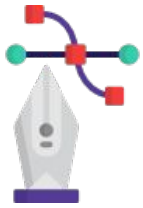
G3
Basic

Leonardo is a one of the best painters in his class. He would like to challenge his classmates to find the area of the rectangles he created. As one of his classmates, your task is to determine the area of each rectangle. Write your answer on the space provided.





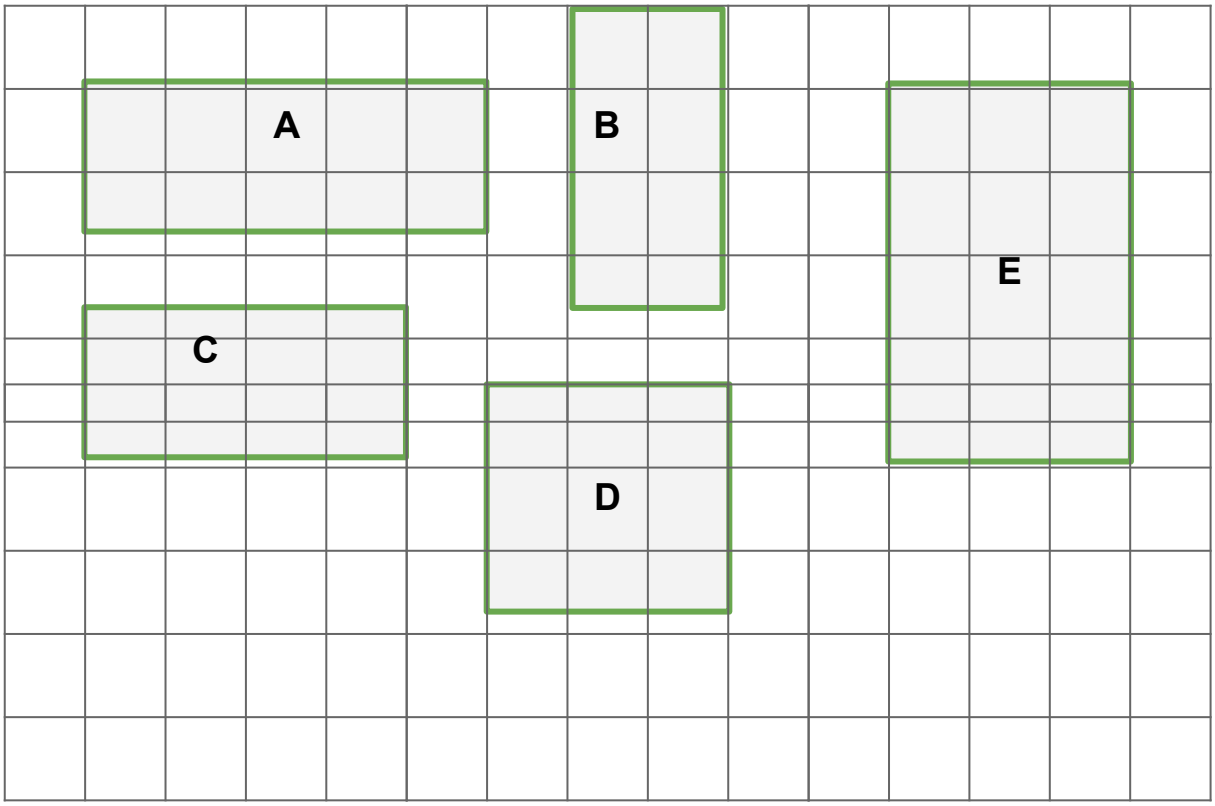




PAINT SELECT!

G3
Basic

Look at the polygon paintings below. Then answer the questions that follow.



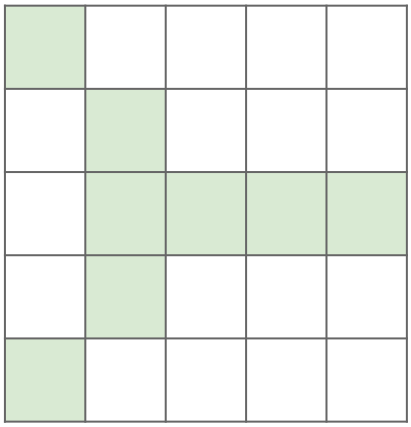
1. Which figure has an area of 15 sq. cm? _____
2. What is the area of figure C? _____
3. Which figure is a square? _____
4. What is the length of figure A? _____
5. What is the width of figure E? _____
6. Which two figures have the same area? _____
7. What is the total area of figures C and D? _____
8. Which figure has the smallest area? _____

THE SHADED AREA

G3
Basic

Your friend did some art pieces by shading some squares. Can you identify the area of each figure? Write your answer inside the oval.

1.



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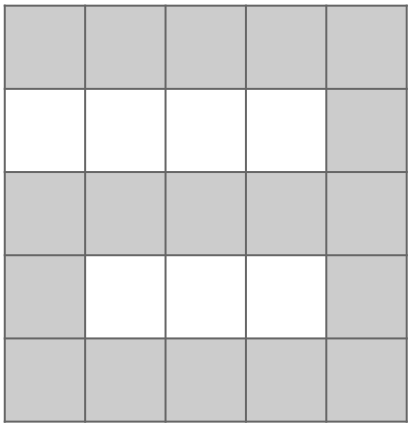

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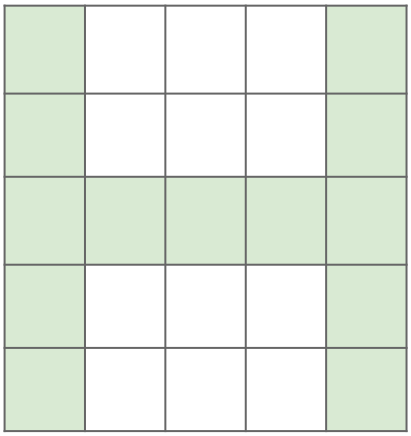
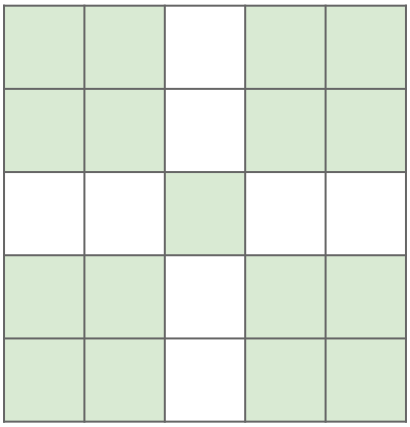
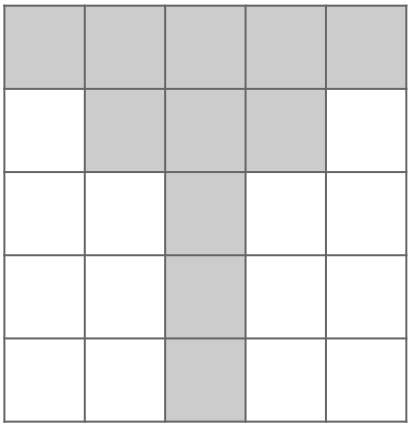


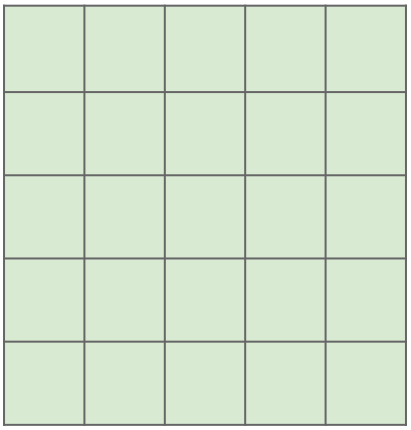
4.

5.

6.



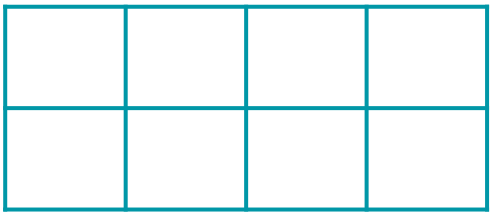




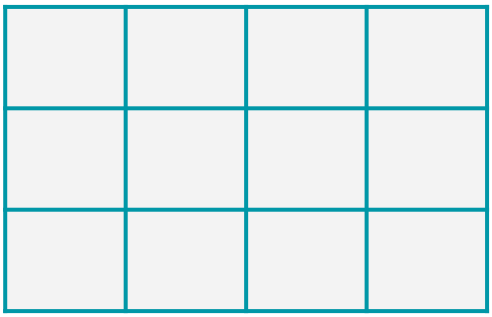
OIL PASTEL

G4 Advanced

Look at some art pieces made by your friends. Using them, identify the dimensions of the rectangle, its perimeter, and area.



1.



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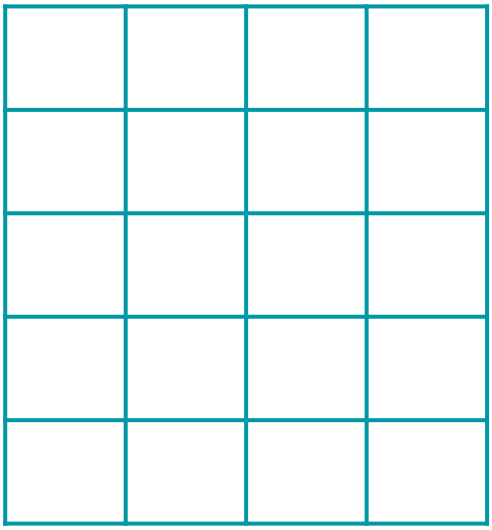


3.

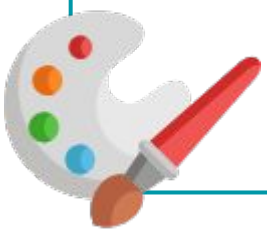
4.

D.I.Y PAINTING

G4 Advanced

Using the given square grids, create the figure that is being described in each statement.

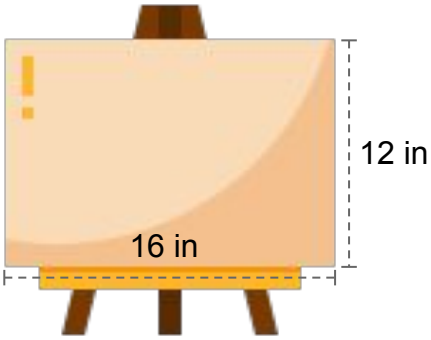
1. Create a rectangle whose length is 5 units and width that is 3 units. Name it as figure A.
2. Draw a square figure and name it figure B. Its side measures 6 units long.
3. Create a figure which has 24 sq. units as its area.
4. Get the total area of the figures that you just created. List them below.



MY CANVAS

G4
Advanced

You need to buy two pieces of canvas for your next paintings. Using your learning about area, determine the amount of space being occupied by each canvas.

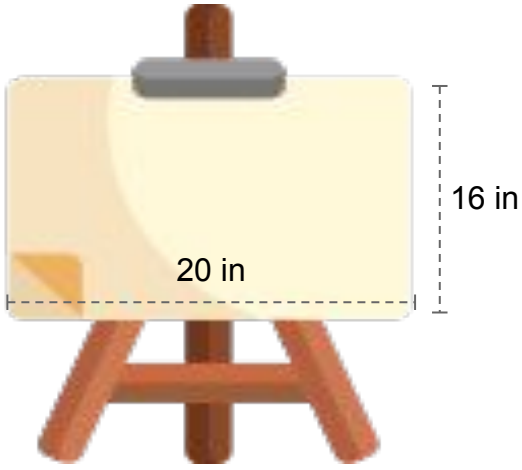


Describe the dimensions of the canvas.

Compute for its area. How many square inches are needed to represent its are in square grids?

Describe the dimensions of the canvas.

Compute for its area. How many square inches are needed to represent its are in square grids?



PAINTING TASKS

G4 Advanced

These are some common scenarios that involve painting and area of polygons. Use your learning about area to solve each problem.

1. Leonardo needs to buy a canvas for his new painting project. The canvas size should be 24 in x 36 in. What is the area of the canvas? Create a scale drawing of the area of the canvas using square grids.

Solution:

Square grids:

2. If the same canvas costs $0.03 per square inch, how much is the cost of the canvas?

Solution:

PAINT VIBES

G4
Advanced

This time, let's answer some essay questions about area, square grids, and paintings. Write your answer on the space provided.

1. What is the importance of learning square grids and area? How can these concepts help you to make some life situations easier to solve?

2. What are the advantages of understanding area and square grids in doing some painting tasks? Cite three answers.

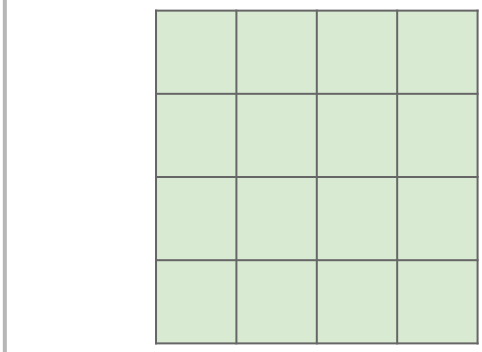
3. Aside from painting, what other fields can area and square grids useful? Cite two examples.

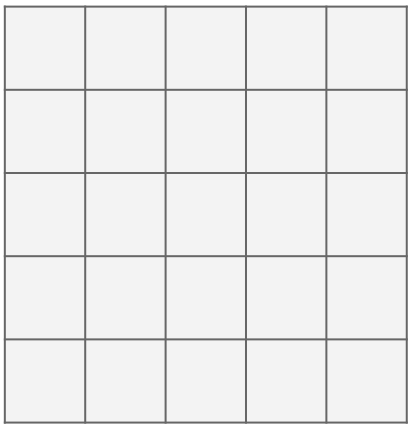
ANSWER GUIDE

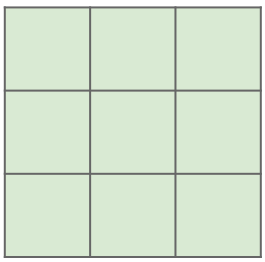
Activity 1

1. 9 sq. cm
2. 4 sq. cm
3. 9 sq. cm
4. 16 sq. cm
5. 1 sq. cm
6. 25 sq. cm

Activity 2







Activity 3

1. 8 sq. units
2. 12 sq. units
3. 20 sq. units
4. 4 sq. units

Activity 4

1. Figure E
2. 8 sq. units
3. Figure D
4. 5 units
5. 3 units
6. Figures B and C
7. 17 sq. units
8. Figure B or Figure C

Activity 5

1. 8 sq. units
2. 18 sq. units
3. 13 sq. units
4. 17 sq. units
5. 11 sq. units
6. 26 sq. units

Activity 6

1. L = 4 units, W = 2 units — P = 12 units, A = 8 sq. units
2. L = 4 units, W = 3 units — P = 14 units, A = 12 sq. units
3. L = 5 units, W = 4 units — P = 18 units, A = 20 sq. units
4. L = 4 units, W = 1 unit — P = 10 units, A = 4 sq. units

ANSWER GUIDE

Activity 7

		5		
3				

			6		
6					

		4	
6			

4) 75 sq. units

Activity 8

1. The length of the canvas is 16 in which is 4 in longer than its width. The area of the canvas is 16 x 14 = 224 sq. in.

2. The length of the canvas is 20 in which is 4 in longer than its width. The area of the canvas is 20 x 16 = 320 sq. in.

Activity 9

1. 24 x 36 = 864 sq. in
2. 864 x 0.03 = $25.92

Activity 10

Answers may vary.

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