Merit Tutoring


# Year 4 Mathematics

## Measuring Our World: Area (Space Inside)

### Worksheet 37: Counting Squares & Informal Units

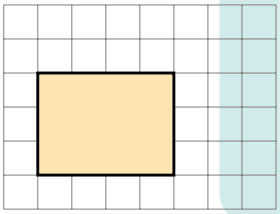
**Name:** _____ **Date:** _____

**What is Area?** Area is the amount of space inside a 2D shape. We can measure it by counting squares!

## Section 1: Fluency - Counting Whole Squares

Count the squares to find the area of each shape.

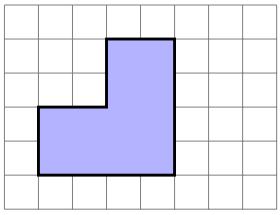
**1.** Count the squares to find the area of Shape A:



Shape A

Answer: _____

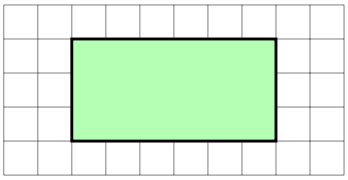
**2.** Count the squares for Shape B:



Shape B (L-shape)


Answer: _____

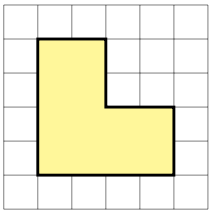
**3.** Find the area of Shape C:



Shape C

Answer: _____

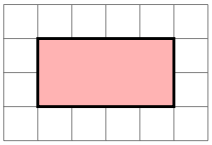
**4.** Count the tiles in Shape D:



Shape D

Answer: _____

**5.** What is the area of this rectangle?

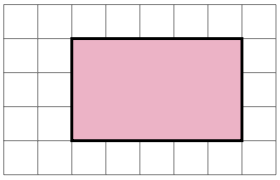


Answer: _____

**6.** Find the area by counting squares:

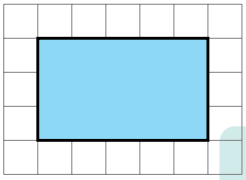




Answer: _____

**7.** Count the tiles covered by this shape:



Answer: _____

**Area Ace!**

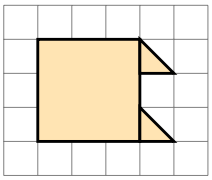

*Why was the square so tired?*

*Because it had a lot of 'area' to cover!*


## Section 2: Reasoning - Half-Squares

Remember: Two half-squares make one whole square!

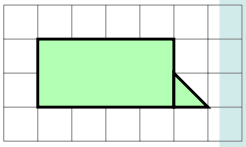
**8.** This shape has whole squares and half-squares (triangles). Count carefully!



How many whole squares? _____ How many half-squares? _____

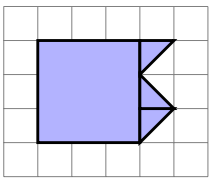
Total area: _____

**9.** Count the area of this shape (include half-squares):



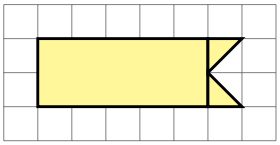
Answer: _____

**10.** If two halves make one whole square, what is the total area of this shape?



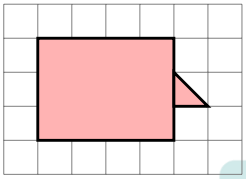
Answer: _____

**11.** Calculate the area (count whole and half squares):



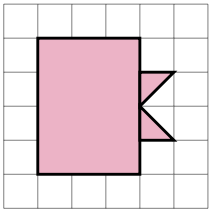
Answer: _____

**12.** How many squares does this shape cover?



Answer: _____

**13.** Find the total area:



Answer: _____

**Half-Square Hero!**

*Why did the triangle feel special?*

*Because it was half of something whole!*

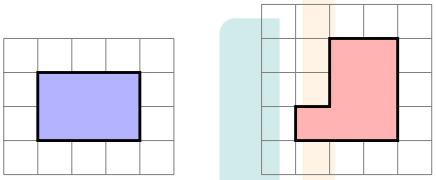

## Section 3: Fluency - Comparing Area

Compare the areas of different shapes.

**14.** Shape A covers 12 tiles. Shape B covers 15 tiles. Which shape has the larger area?

Answer: _____

**15.** Look at these two shapes. Which has a larger area?



Shape X Shape Y

Answer: _____

**16.** A rectangle has an area of 10 squares. An L-shape has an area of 9 squares. Which has more area?

Answer: _____

**17.** Order these shapes from smallest to largest area: Shape A = 8 squares, Shape B = 12 squares, Shape C = 6 squares.

Answer: _____

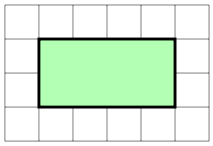
**18.** Two shapes have the same area. Shape 1 is 14 squares. How many squares is Shape 2?



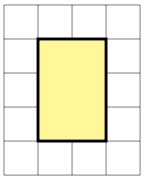
 


Answer: _____

**19.** Which shape covers more space?



Shape P (area = ?)



Shape Q (area = ?)

Answer: _____

**20.** True or False: Different shaped objects can have the same area.

Answer: _____


**Space Explorer!**

*Why did the shapes have a race?*

*To see which one could cover more ground!*

**Great work! You're an area expert!**


# Answer Key

## Worksheet 37: Counting Squares & Informal Units

### Section 1: Fluency - Counting Whole Squares

**1.** Answer: **6 squares**
**2.** Answer: **10 squares**
**3.** Answer: **9 squares**
**4.** Answer: **8 squares**
**5.** Answer: **4 squares**
**6.** Answer: **15 squares**
**7.** Answer: **15 squares**

### Section 2: Reasoning - Half-Squares

**8.** Whole squares: **6**, Half-squares: **2**
Total area: **7 squares**
**9.** Answer: **4.5 squares** or **4 and a half squares**
(4 whole + 1 half = 4.5)
**10.** Answer: **7.5 squares** or **7 and a half squares**
(6 whole + 3 halves = 7.5)
**11.** Answer: **11 squares**
(10 whole + 2 halves = 11)
**12.** Answer: **6.5 squares**
(6 whole + 1 half)
**13.** Answer: **7 squares**
(6 whole + 2 halves = 7)


## Section 3: Fluency - Comparing Area

**14.** Answer: **Shape B** (15 tiles is more than 12 tiles)
**15.** Answer: **Shape Y** (Shape X = 4 squares, Shape Y = 7 squares)
**16.** Answer: **The rectangle** (10 squares is more than 9 squares)
**17.** Answer: **Shape C, Shape A, Shape B** (6, 8, 12)
**18.** Answer: **14 squares** (same area means equal)
**19.** Answer: **Shape P** (Shape P = 8 squares, Shape Q = 6 squares)
**20.** Answer: **True**


# Year 4 Mathematics

## Measuring Our World: Area (Space Inside)

### Worksheet 38: Formal Units ($cm^2$) & Approximation

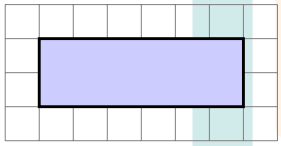
**Name:** _____ **Date:** _____

**Square Centimetres:** When we use a 1cm × 1cm grid, each square represents 1 square centimetre (written as $1cm^2$).

## Section 1: Fluency - Rectangles on 1cm Grids

Calculate the area of these rectangles in square centimetres ($cm^2$).

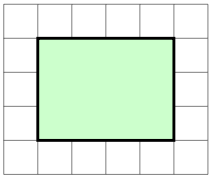
**1.** Calculate the area of this rectangle:



Each square = $1cm^2$

Answer: _____

**2.** Find the area in $cm^2$:

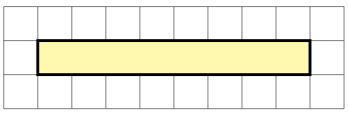


Answer: _____

**3.** What is the area of this rectangle?

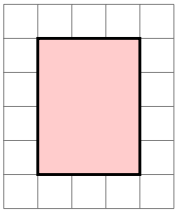




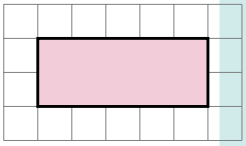
Answer: _____

**4.** Calculate the area:



Answer: _____

**5.** Find the area of this rectangle in square centimetres:



Answer: _____

**6.** A rectangle is 5cm long and 3cm wide. What is its area?

Answer: _____

**7.** Calculate: A rectangle that is 7cm by 2cm has an area of:

Answer: _____

**8.** What is the area of a square with sides of 4cm?




Answer: _____

**Square Centimetre Star!**

*Why did the square go to the party?*

*Because it heard there would be $cm^2$ dancing!*


## Section 2: Problem Solving - Tiling a Floor

Solve practical area problems.

**9.** A small rectangular rug is 4 squares long and 3 squares wide. How many square tiles are needed to cover it?

Answer: _____

**10.** A floor is covered with tiles. It is 6 tiles long and 5 tiles wide. How many tiles are there in total?

Answer: _____

**11.** A wall is 8cm high and 4cm wide. If you use $1cm^2$ tiles, how many tiles do you need?

Answer: _____

**12.** A table top is 10 squares long and 7 squares wide. What is its area?

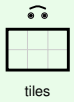
Answer: _____

**13.** A garden bed is 9cm by 3cm. How many $1cm^2$ seeds can fit if you plant one in each square?

Answer: _____

**14.** A rectangular card is 12cm long and 5cm wide. What is its area?


Answer: _____




**Tiling Champion!**

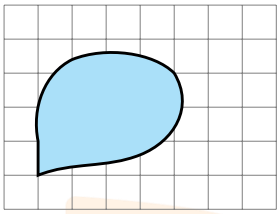
*Why did the tile love maths?*

*Because it fit perfectly into every problem!*


## Section 3: Challenge - Approximating Irregular Areas

Count full squares and estimate partial squares to find approximate area.

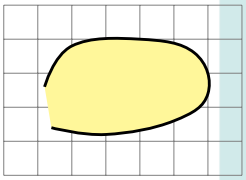
**15.** This irregular shape covers some full squares and some partial squares. Approximate the area:



Estimate: Count full squares + estimate partials

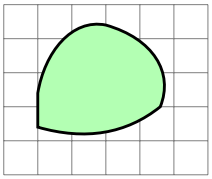
Answer: _____

**16.** Approximate the area of this blob shape:



Answer: _____

**17.** Count the full squares and estimate the partials:



Answer: _____

**18.** True or False: When a shape doesn't fit perfectly on a grid, we can


estimate its area by counting whole squares and guessing partial squares.

Answer: _____

**19.** A handprint covers approximately 10 full squares and about 8 partial squares (which might equal about 4 full squares). What is the approximate total area?

Answer: _____

**20.** If a leaf covers 12 full squares and some edge squares, would you estimate its area to be closer to 12, 15, or 20 square units?

Answer: _____


**Estimation Expert!**

*Why was the irregular shape so confident?*
*Because it knew it could 'approximately' fit anywhere!*

**Fantastic! You're an area measurement master!**


# Answer Key

## Worksheet 38: Formal Units ($cm^2$) & Approximation

### Section 1: Fluency - Rectangles on 1cm Grids

**1.** Answer: **6** $cm^2$
**2.** Answer: **12** $cm^2$
**3.** Answer: **8** $cm^2$
**4.** Answer: **12** $cm^2$
**5.** Answer: **10** $cm^2$
**6.** Answer: **15** $cm^2$
Working: 5 × 3 = 15
**7.** Answer: **14** $cm^2$
Working: 7 × 2 = 14
**8.** Answer: **16** $cm^2$
Working: 4 × 4 = 16

### Section 2: Problem Solving - Tiling a Floor

**9.** Answer: **12 tiles**
Working: 4 × 3 = 12
**10.** Answer: **30 tiles**
Working: 6 × 5 = 30
**11.** Answer: **32 tiles** or **32** $cm^2$
Working: 8 × 4 = 32
**12.** Answer: **70 squares**
Working: 10 × 7 = 70
**13.** Answer: **27 seeds**
Working: 9 × 3 = 27


**14.** Answer: **60** $cm^2$
Working: 12 × 5 = 60

## Section 3: Challenge - Approximating Irregular Areas

**15.** Answer: **Approximately 8-10 squares** (accept reasonable estimates)
**16.** Answer: **Approximately 9-12 squares** (accept reasonable estimates)
**17.** Answer: **Approximately 7-10 squares** (accept reasonable estimates)
**18.** Answer: **True**
**19.** Answer: **Approximately 14 squares**
Working: 10 full + 4 (from partials) = 14
**20.** Answer: **15** (most reasonable estimate considering edge squares)

# Congratulations!

You are now an Area Measurement Expert!

Keep exploring the space inside shapes!