

Area of a triangle – counting squares

Notes and guidance

In this small step, children are introduced to finding the area of a triangle by counting squares. They estimated area in Year 5, but may need to be reminded of efficient strategies for calculating and estimating areas of shapes.

Children first find the areas of triangles that require them to only count full and half squares. They can calculate these separately and then combine them to find the area. They then move on to estimating the areas of triangles that involve sections of squares greater and less than half. Children also explore creating their own triangles with a specific area.

Some links are made between the area of a rectangle and the area of a triangle, but the formula is not introduced until the next step.

Things to look out for

- Children may count half squares as full squares.
- Without an efficient method, children may not count squares accurately.
- Children may find it difficult to draw a triangle with a specific area.
- If a triangle is not placed on a line, children may believe it is impossible to estimate its area.

Key questions

- How is finding the area of a triangle similar to finding the area of a rectangle when counting squares? How is it different?
- How will you count the squares accurately?
- Is more or less than half the square shaded?
- Can you see any parts of squares that combine to make approximately one full square?
- How does the area of the rectangle link to the area of a triangle? Why do you think this happens?

Possible sentence stems

- The triangle has _____ full squares.
The triangle has _____ half squares.
The area of the triangle is _____ cm^2
- The approximate area of the triangle is _____ cm^2

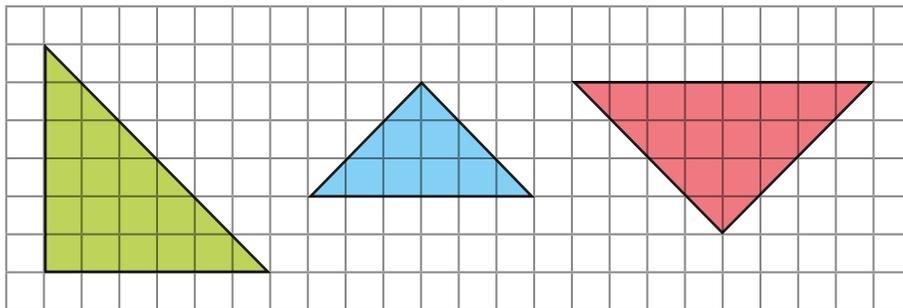
National Curriculum links

- Calculate the area of parallelograms and triangles

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Key learning

- Complete the sentences to find the area of the triangles.



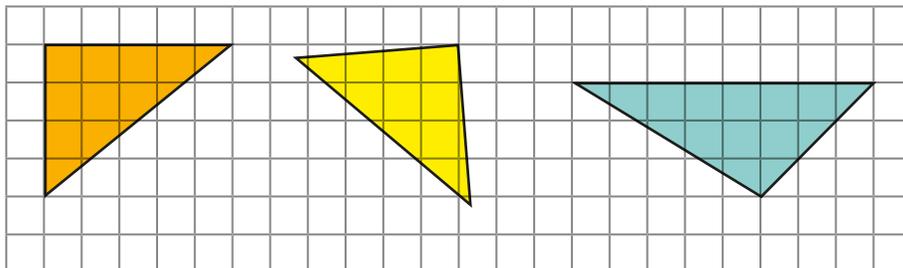
The triangle has _____ full squares.

The triangle has _____ half squares.

_____ + _____ = _____

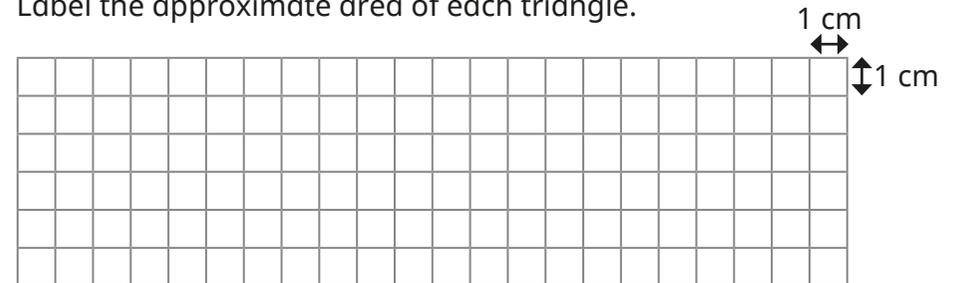
The total area of the triangle is _____ cm^2

- Estimate the areas of the triangles by counting squares.

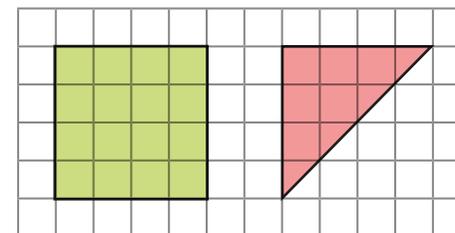


- Draw three different triangles that have an area between 5 cm^2 and 15 cm^2

Label the approximate area of each triangle.



- Work out the area of each shape by counting squares.



What do you notice about the area of the triangle compared to the area of the square?

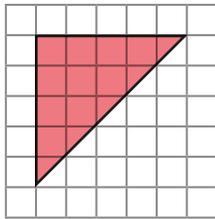
Does this always happen?

Draw a rectangle and a triangle to explore the pattern.

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Reasoning and problem solving

Tiny says that the area of the triangle is 15 cm^2

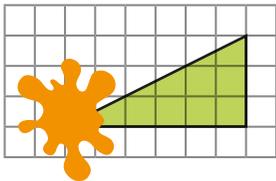


Tiny is incorrect.

Explain what Tiny has done wrong.

Tiny has counted the half squares as full squares.

Part of the triangle has been covered.

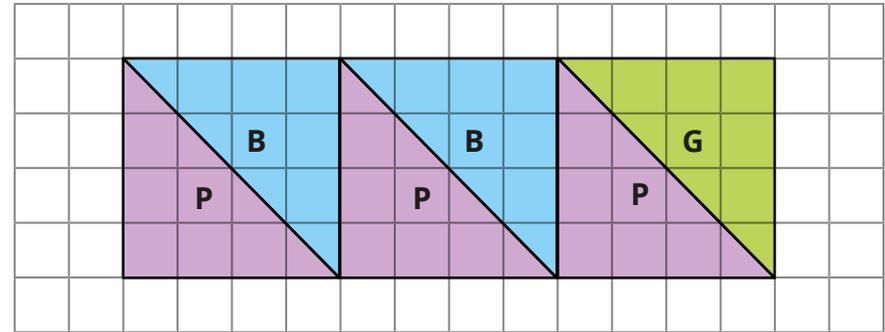


Estimate the area of the whole triangle.

Would your estimate change if the splat was in a different place?

9 cm^2

Huan draws three squares and splits them into six right-angled triangles.



What is the total area of the purple (P) triangles?

What is the total area of the blue (B) triangles?

What is the area of the green (G) triangle?

Compare methods with a partner.

purple: 24 cm^2

blue: 16 cm^2

green: 8 cm^2

