Area of a Parallelogram

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Monday 27th April 2020

As part of your maths today, please complete Times tables grid 2.

L.O. To calculate the area of parallelograms
1. Explain perimeter and area
2. Identify a parallelogram
3. Calculate the area of the shapes
4. Explain answers
5. Solve problems

Remind yourself of the work you did last week on perimeter and area – especially how to calculate the area of a triangle.

Then, work through the slides.

Today is all about calculating the area of parallelograms.

You need to remind yourself what this shape is and think about how the area can be calculated. The formula you must use is base x perpendicular height (the height if you draw a line straight up, rather than measuring the side of the shape)

There are answers following each slide.

When you have worked through this, there are VF and RPS sheets to have a go at – remember to choose D, E or GD, as you would in class to complete and either the A or B side of each sheet.

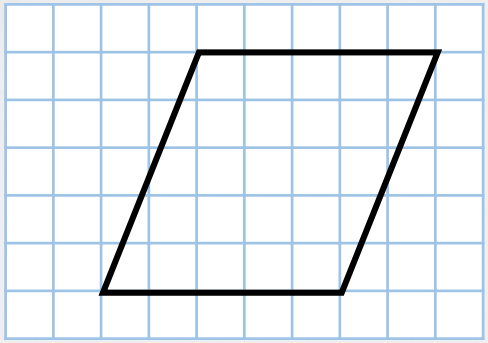
Always do VF before RPS.

There are answers at the end of the document for when you finish.

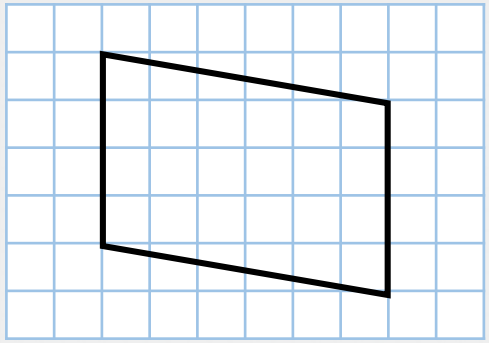
Introduction

Match the parallelograms to the correct area. ☐ = 1cm²

A.



B.



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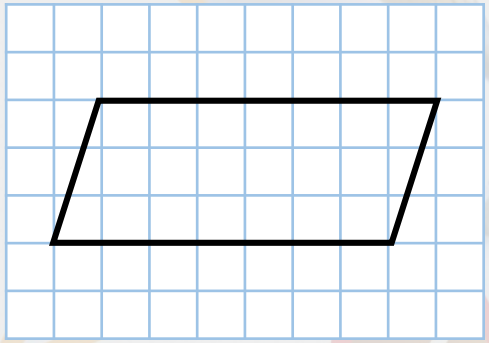

25cm²

21cm²

24cm²

Not to scale

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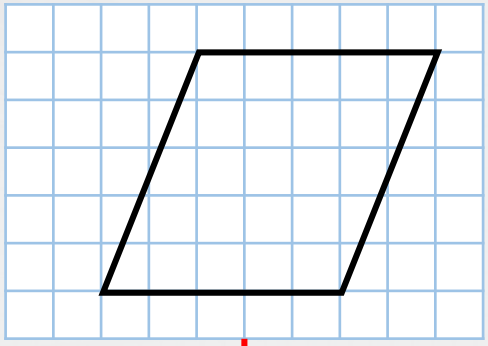
Introduction

Match the parallelograms to the correct area. ☐ = 1cm²

A.



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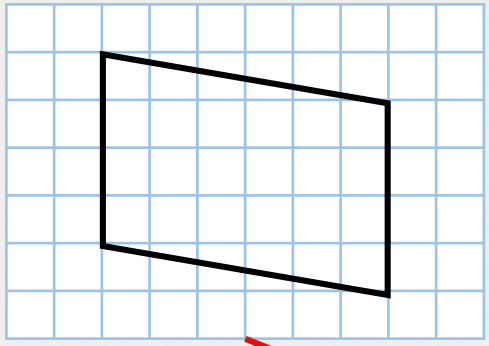
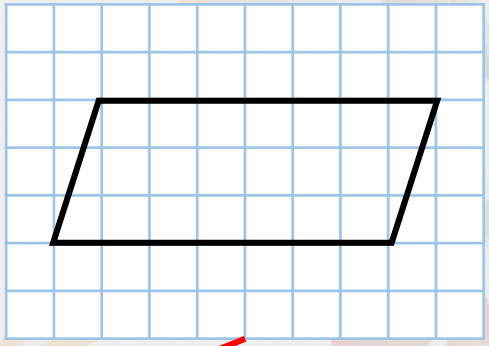


C.



25cm²

21cm²

24cm²

Not to scale

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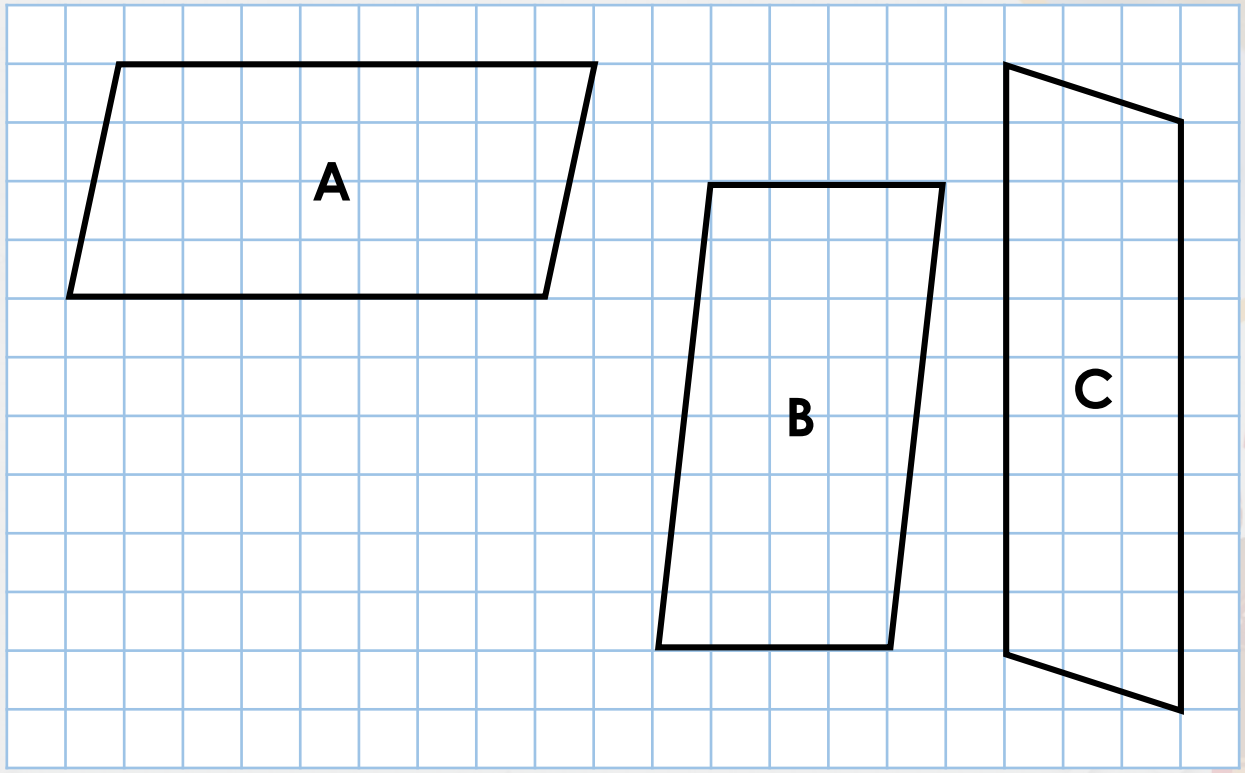
Varied Fluency 1

Which parallelograms have an area of 32cm²? ☐ = 1cm²



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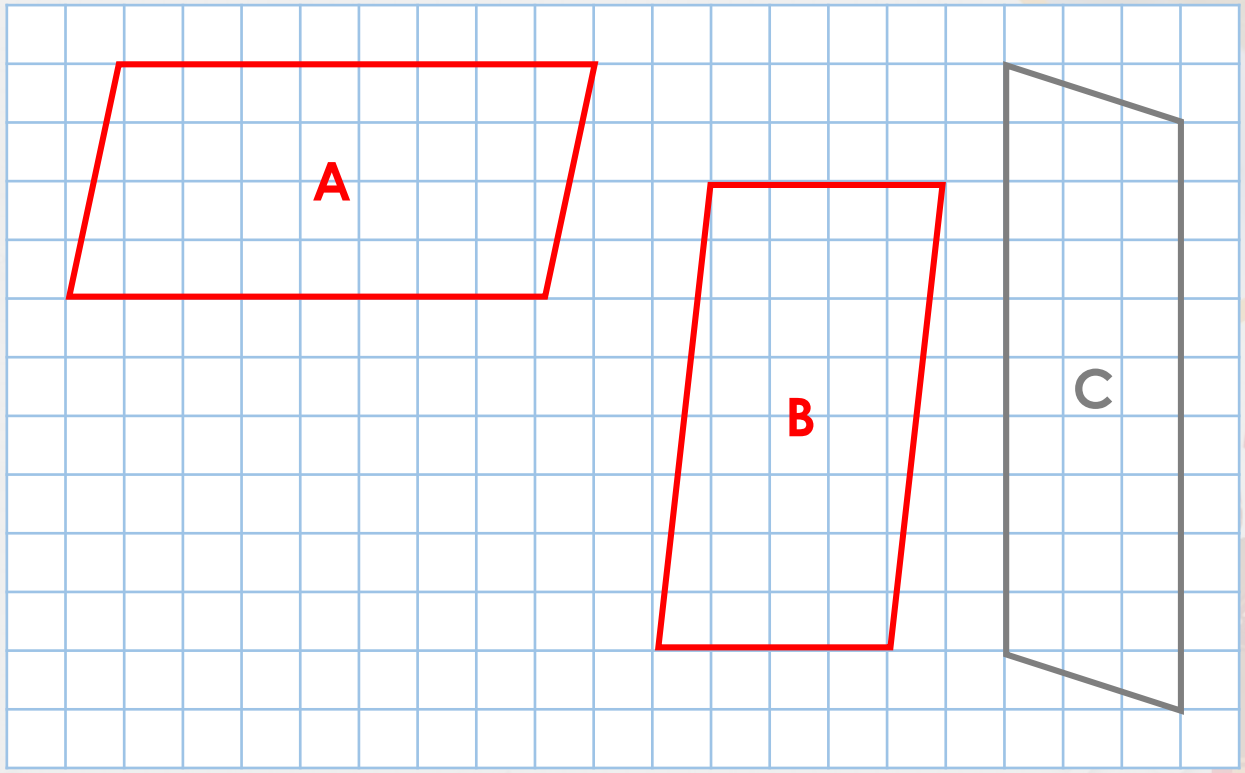
Varied Fluency 1

Which parallelograms have an area of 32cm²? ☐ = 1cm²



A and B

Not to scale

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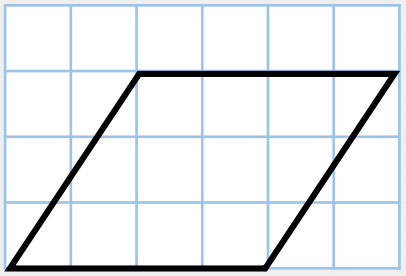
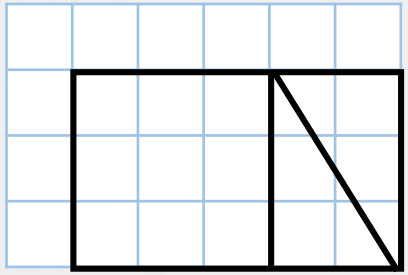
Varied Fluency 2

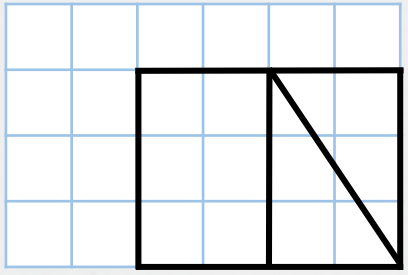
Which group of shapes make up the parallelogram below?



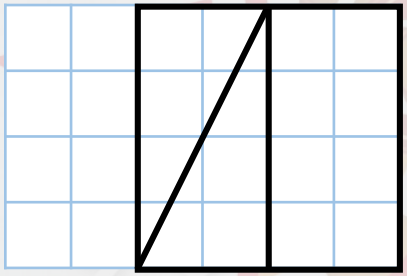
A.



B.



C.



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Varied Fluency 2

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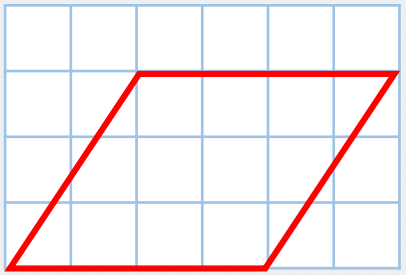
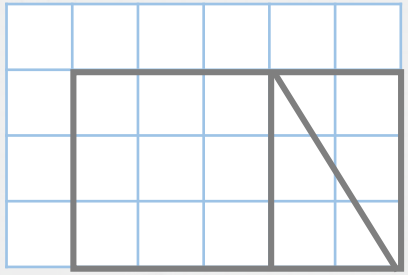


A.



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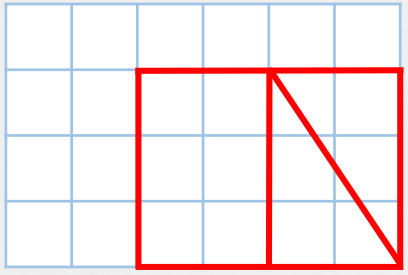

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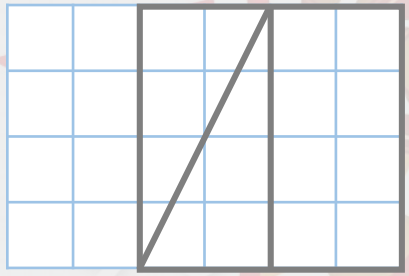

B

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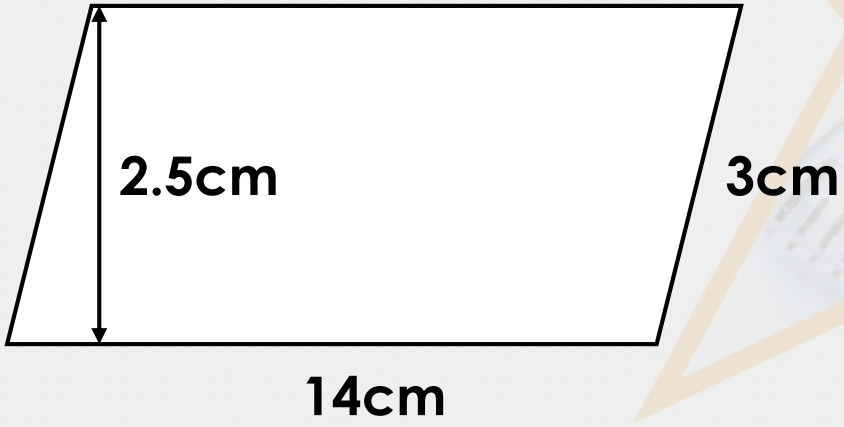
Varied Fluency 3

Use the formula: base x perpendicular height to calculate the area of the shape.



	cm	x		cm	=		cm^2

Not to scale

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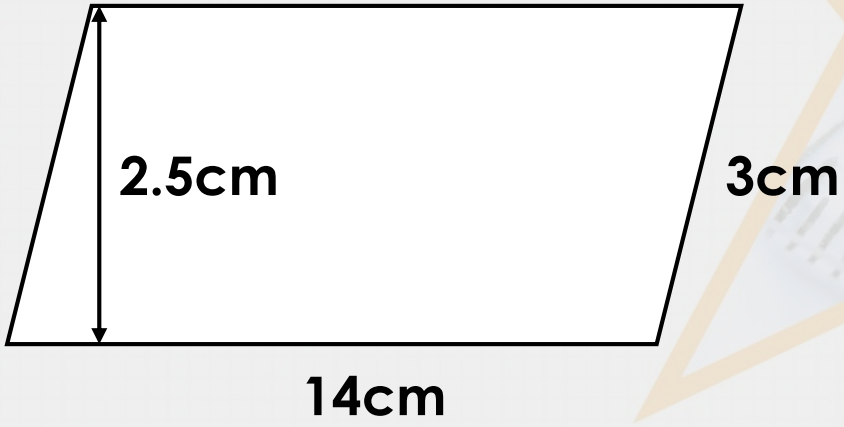
Varied Fluency 3

Use the formula: base x perpendicular height to calculate the area of the shape.



14cm x 2.5cm = 35cm^2

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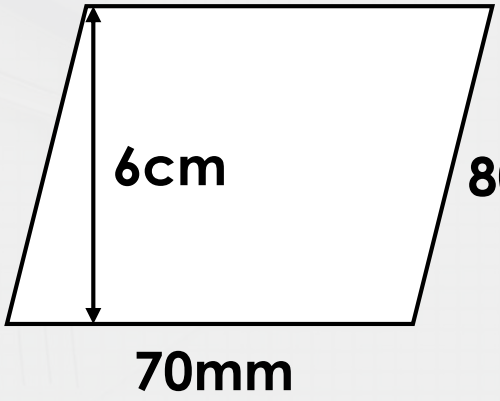
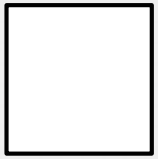
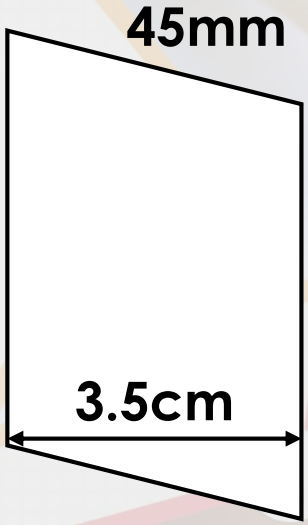
Varied Fluency 4

Calculate the area of the shapes and complete the comparison statement.







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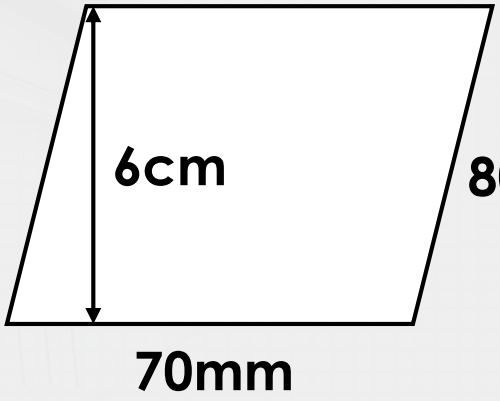
Varied Fluency 4

Calculate the area of the shapes and complete the comparison statement.



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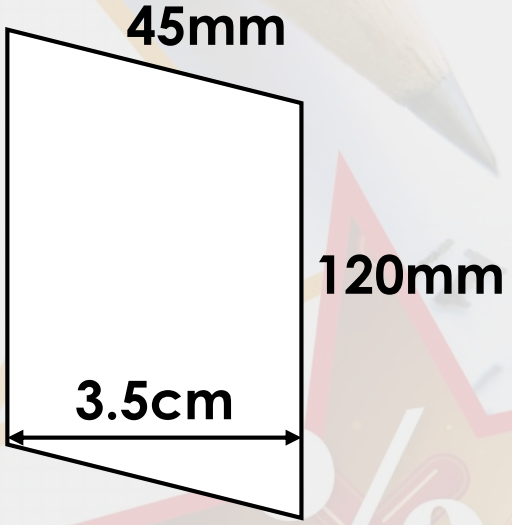

$42cm^2 = 42cm^2$

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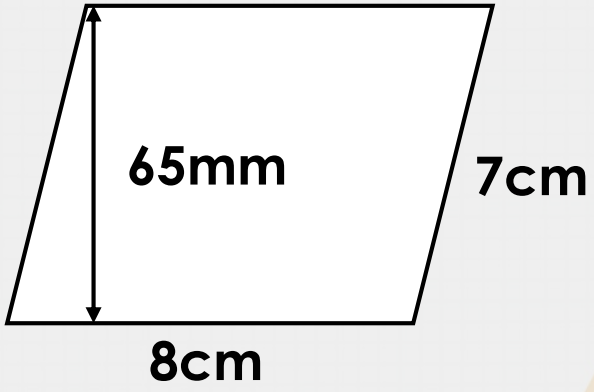
Reasoning 1

Joshua says that half the area of the parallelogram below is 26m^2.



Use the formula base x perpendicular height to prove whether Joshua is correct.

Not to scale

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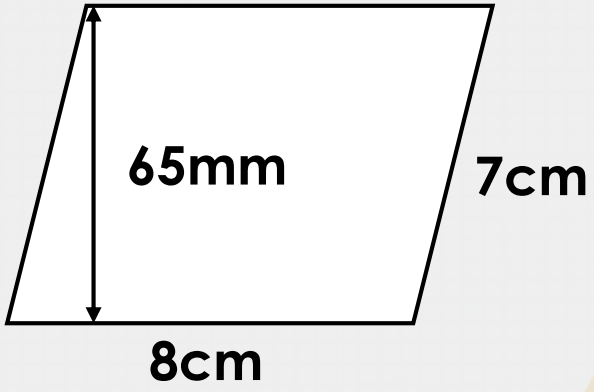
Reasoning 1

Joshua says that half the area of the parallelogram below is 26m².



Use the formula base x perpendicular height to prove whether Joshua is correct.

Various answer, for example:
Joshua is correct because…

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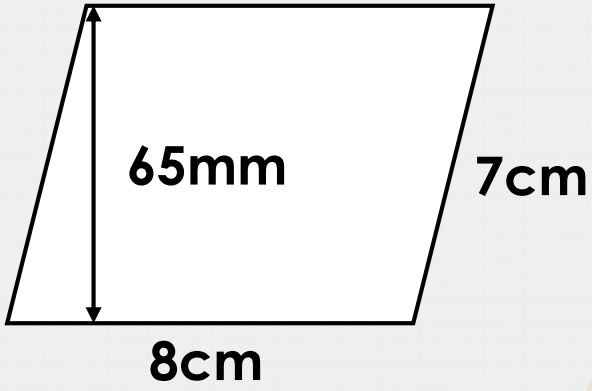
Reasoning 1

Joshua says that half the area of the parallelogram below is $26m^2$.



Use the formula base x perpendicular height to prove whether Joshua is correct.

Various answer, for example:
Joshua is correct because the area of the parallelogram is 8cm x 6.5cm = $52cm^2$, so half the area of the parallelogram is $52cm^2 \div 2 = 26cm^2$.

Not to scale

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Problem Solving 1

Susanna is creating a mosaic. The tiles are parallelograms.

The area she wants to cover is 60cm x 60cm.

The area needs to be completely covered.
How many tiles will she need? Show your working.

Not to scale

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Problem Solving 1

Susanna is creating a mosaic. The tiles are parallelograms.

The area she wants to cover is 60cm x 60cm.

The area needs to be completely covered.
How many tiles will she need? Show your working.

100 tiles; the area of each tile is 36cm^2 (8cm x 4.5cm) and the area of the mosaic she wants to cover is 3,600cm^2 (60cm x 60cm).
3,600cm^2 ÷ 36cm^2 = 100.

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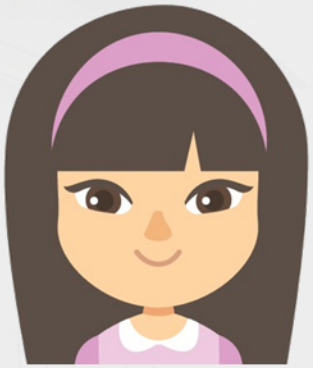
Reasoning 2

Lucie has drawn a parallelogram.

She says,



The area of my parallelogram is 45mm^2 and the base is 3cm, so the perpendicular height must be 1.5cm.

Is she correct? Explain your answer.

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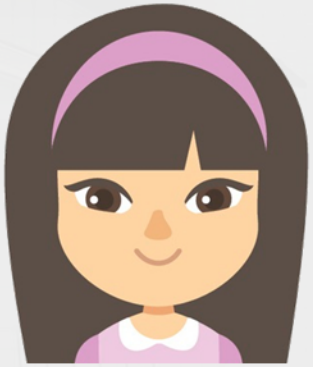
Reasoning 2

Lucie has drawn a parallelogram.

She says,



The area of my parallelogram is 45mm^2 and the base is 3cm, so the perpendicular height must be 1.5cm.

Is she correct? Explain your answer.

Lucie is correct because…

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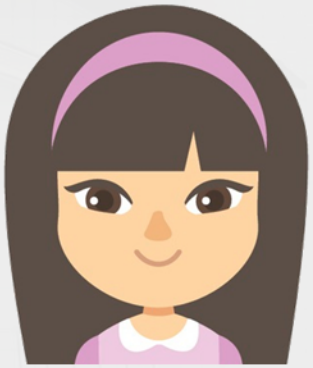
Reasoning 2

Lucie has drawn a parallelogram.

She says,



The area of my parallelogram is 45mm^2 and the base is 3cm, so the perpendicular height must be 1.5cm.

Is she correct? Explain your answer.

Lucie is correct because 4.5cm^2 ÷ 3cm = 1.5cm.

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