

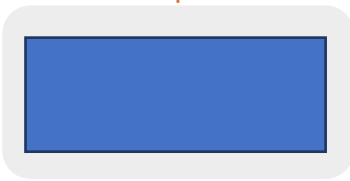
PiXL Spine – Mathematics - Measure

For the following key words find the definition and try to use the word in a sentence. Then find three more words from the Spine mats that you need to know.

Key words	Meaning and use in a sentence
Area	
Perimeter	
Centimetre	
24 hour clock	
Scale factor	
Similar shape	
Polygon	

Quadrant questions

For the following questions you have one theme running through but different applications. When you answer the questions think about what is the **same** and what is **different**. What maths are you using? How did you know to use a particular procedure?

<p>The dimensions of the rectangle are 3cm and 7cm. Calculate the area in cm.</p>	<p>Find the area of the rectangle in mm^2.</p>
	
<p>How many of the blue rectangles would fit on a space that is $300m^2$</p>	<p>What is the perimeter of the rectangle in metres?</p>

Write 10.10pm as if on a 24 hour clock.

I start watching a film at 10.10am. The film is 74 minutes long. What time will it finish?



What is the angle at the centre of the clock?

Swimming lessons start at 10.10. It takes 22 minutes to get to the pool. What time do you need to leave?

Extension

Now create four questions using the word in the centre of the quadrant. How many different types of questions can you think of? Use the Spine mats to help you.

<div style="background-color: #f4a460; border-radius: 15px; padding: 10px 40px; display: inline-block;">A square</div>	

Investigate

Area

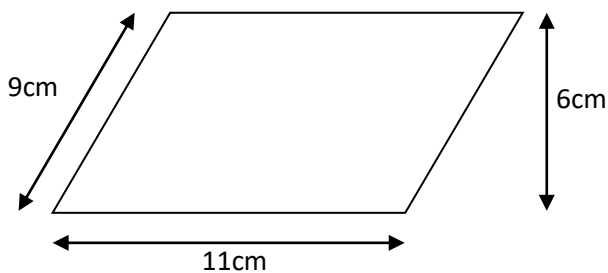
“If I double the length, I double the area”

Think carefully about how to **systematically** tackle this problem. Will you start with one particular shape? What will you change? What will you keep the same?

Be the teacher

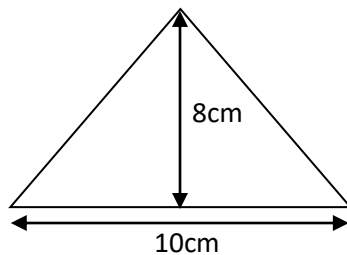
Look at the following questions and student responses. Can you spot the mistakes? What feedback would you give the students? Write out the correct solutions with explanations.

1. Find the area of the parallelogram.



$$\begin{aligned} \text{Area} &= \text{base} \times \text{height} \\ &= 9 \times 11 \\ &= 99\text{cm}^2 \end{aligned}$$

2. Find the area of the triangle.

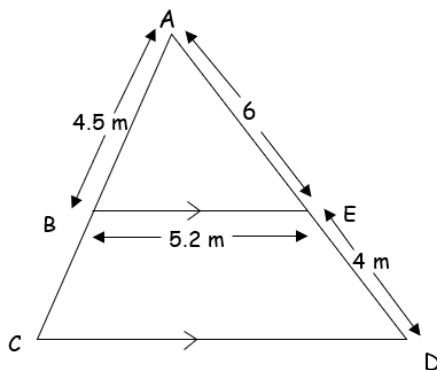


$$\begin{aligned} \text{Area} &= 8 \times 10 \\ &= 80\text{cm}^2 \end{aligned}$$

Challenge

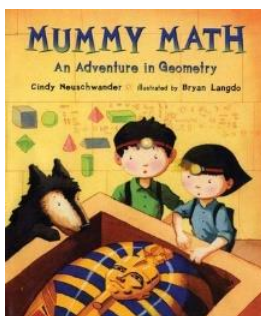
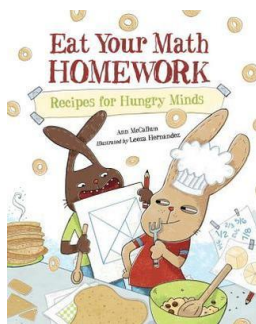
In the diagram below BE is parallel to CD and all measurements are as shown.

- Calculate the length CD.
- Calculate the perimeter of the Trapezium EBCD.
- Now design your own version of the challenge. Give it to a partner to try. Make sure you mark their answer and give feedback.



Extended reading

These books might be available in your school library. Can you pick a chapter to read and design a book report on what you have discovered. What maths have you used? Imagine you are the publishers trying to sell the book. What would you write about it?



Recipes to make while exploring maths!

Tweet the pictures of your finished product.



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