

## Measures and Data Unit 4

### Problem solving and reasoning questions

Sam has two photos. One has an area of  $49\text{cm}^2$ . The other has an area of  $56\text{cm}^2$ .

A side length of one photo is equal to one of the sides of the other. What are the side lengths of the two photos?

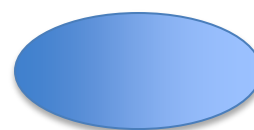
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The area of a rectangle is  $45\text{ cm}^2$ . If one side is 4cm longer than the other, what is the perimeter of the rectangle?

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Mary has an oval table. She wants to find its area as accurately as she can.

Write 2 or 3 sentences explaining how she might do this.



A box exactly holds 75 centimetre cubed dice. Inside, it has a square base with sides 5cm.

What is its inside height?

### Challenge

If the wood is  $\frac{1}{2}$  cm thick and the box has a lid, how much space will the box take up in my bag?

These questions should be provided for children to do once the unit has been completed. They assess the children's mastery of the skills and concepts in this unit.

## ANSWERS

### Measures and Data Unit 4

#### Problem solving and reasoning questions

Sam has two photos. One has an area of  $49\text{cm}^2$ . The other has an area of  $56\text{cm}^2$ .

A side length of one photo is equal to one of the sides of the other. What are the side lengths of the two photos?

7cm by 7cm and 7cm by 8cm

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The area of a rectangle is  $45\text{cm}^2$ . If one side is 4cm longer than the other, what is the perimeter of the rectangle? 28cm.

The sides must be 9cm and 5cm which give an area of  $45\text{cm}^2$ .  
The perimeter is 28cm ( $9\text{cm} + 5\text{cm} + 9\text{cm} + 5\text{cm}$ ).

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Mary has an oval table. She wants to find its area as accurately as she can.

Write 2 or 3 sentences explaining how she might do this.



One way would be to use cm squared paper – cut out pieces that are 10 by 10cm, i.e.  $100\text{cm}^2$  (or larger pieces, but keep them all the same); see how many fit across the main part of the surface. Then cut out pieces to cover the curved parts and count as accurately as possible.

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A box exactly holds 75 centimetre cubed dice. Inside, it has a square base with sides 5cm.

What is its inside height? 3cm.

Since the base is 5cm square 25 dice will cover the base and  $3 \times 25 = 75$ .

### Challenge

If the wood is  $\frac{1}{2}$  cm thick and the box has a lid, how much space will the box take up in my bag?  $144\text{cm}^2$

If the wood of the box is  $\frac{1}{2}$  cm thick, then the dimensions of the box will be 6cm by 6cm by 4cm which takes up  $6 \times 6 \times 4 = 144\text{cm}^2$ .

These questions should be provided for children to do once the unit has been completed. They assess the children's mastery of the skills and concepts in this unit.