

# REASONING

## 6ER17

First name \_\_\_\_\_

Last name \_\_\_\_\_

School \_\_\_\_\_

Class \_\_\_\_\_

Date of birth ○○ ○○ ○○○○

Date of test ○○ 05 2017

Total score  (maximum 20)



150281



Llywodraeth Cymru  
Welsh Government

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**Rules**  
dog beats cat  
cat beats mouse  
mouse beats dog



**Scoring each round**  
win: 2 points  
draw: 1 point each  
lose: 0 points

After 2 rounds, what could the scores be?

Show all possible pairs of answers. One pair is done for you.

Rhian's score	Tom's score
0	4


2m

After 8 rounds, Rhian says:



I won 6 and drew 1 of the 8 rounds.

What are their scores?



Rhian  points      Tom  points


2m


**Rules**  
dog beats cat  
cat beats mouse  
mouse beats dog



**Scoring each round**  
win: 2 points  
draw: 1 point each  
lose: 0 points

The next day they play again, starting with a score of 0

Rhian  I will always choose in this order:  
**dog, cat, mouse, dog, cat, mouse,**  
and so on.

Tom  I will always choose **cat**.

What are their scores after 15 rounds?

Rhian  Tom

2 Meg sells birthday cakes with candles to show the ages, e.g.



Information about the candles:

1 2 3 4 5 6 7 8 9 0

Each digit costs £1.50

Meg makes one cake for each year from age 1 to age 16

Altogether, how much do the candles cost?

£



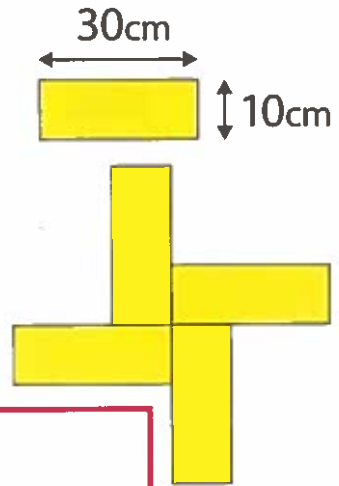
2m


3 Jac has four identical rectangles.

Each measures 30cm by 10cm.

He uses them to make this 'windmill' shape.

Work out the **perimeter** of the shape.





cm


2m

4 The bear has big jars  and small jars  and a large pot of honey.

The pot of honey could fill



How many **small** jars could the pot of honey fill?



small jars

2m

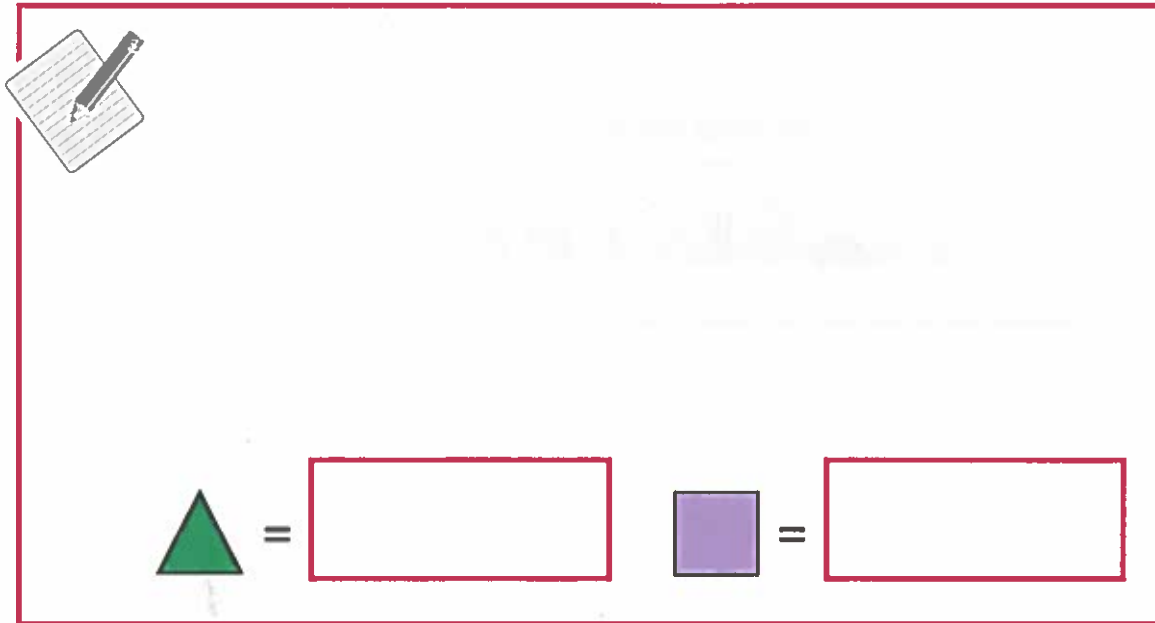
TOTAL  
6m



5  and  represent numbers.

$$\triangle + \square = 20$$

$$\triangle - \square = 6$$

What are the numbers?



 =        =

2m

 and  represent other numbers.

$$\bigcirc + \star = 20$$

$$\bigcirc - \star = 7$$



What are the numbers?

 =        =


1m

- 6 Year 6 children buy St David's day mugs, and pencils to put in the mugs. Then they sell the mugs and pencils and give the profit to charity.

What the children buy	Small mug 	Big mug 	Pencils 
Cost	£1.95 each	£2.85 each	10p each
Number	20	15	170

What the children sell	Small mug with 4 pencils 	Big mug with 6 pencils 
Price	£3.50 each	£5.50 each
Number	19	13

How much money do the children give to charity?



£

