

Friday 10<sup>th</sup> July

Two Dojos for every puzzle you solve today! The first two should get you started!

### Challenge 1

30 cakes are arranged in an **array**. Some of the cakes are hidden.



How many cakes are hidden?

### Challenge 2

Work out the missing numbers.

$$10 \times 2 = 5 \times \text{blue circle}$$

$$10 + 2 = 5 + \text{orange triangle}$$

$$10 \div 2 = 5 \div \text{green square}$$

$$10 - 2 = \text{yellow heart} - 5$$

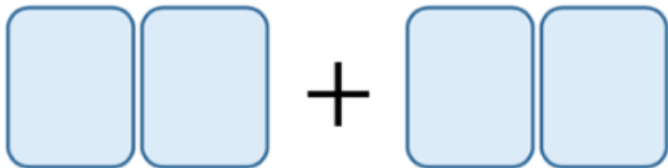
### Challenge 3

Danni has these four digit cards.



Danni uses all four cards to make two 2-digit numbers.

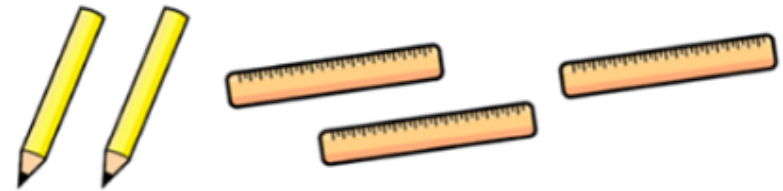
She then adds the two numbers together.



What is the greatest total she can make?

### Challenge 4

Sonny buys 2 pencils and 3 rulers.



Each pencil costs 69p.

Sonny pays with a £5 note and receives £1.07 change.

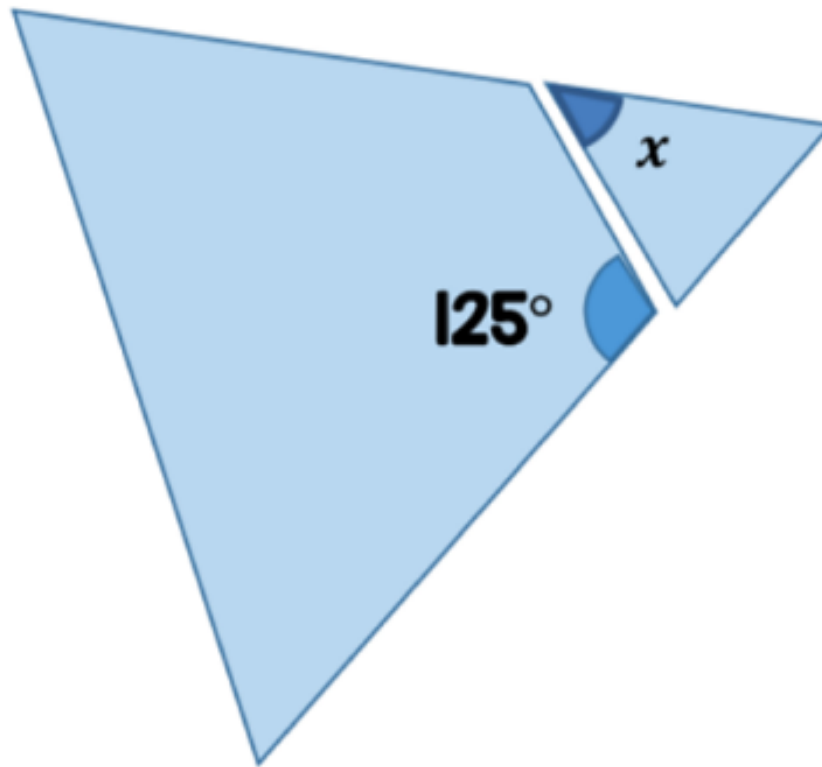
How much does a ruler cost?

## Challenge 5

Adam has an equilateral triangle.

He cuts a corner off the triangle.

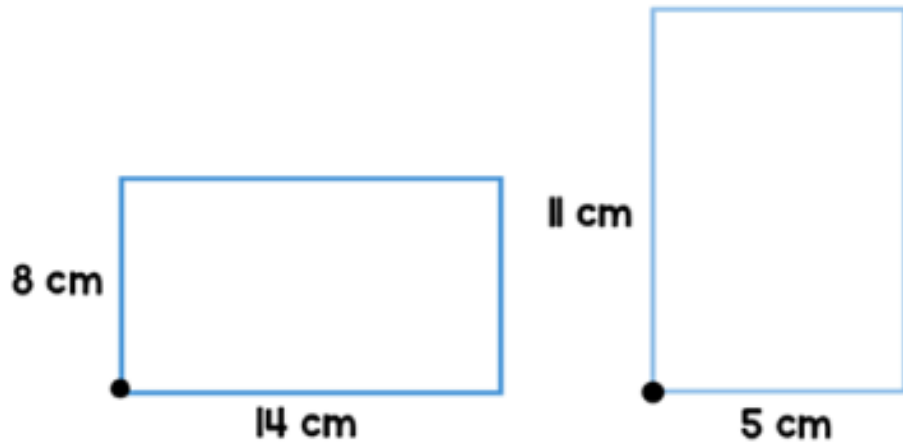
Here are the two pieces.



What is the size of the angle marked  $x$ ?

# Challenge 6

Here are two rectangles.



The two rectangles are put on top of each other.

They are lined up so the black circles overlap.

The shaded area shows where the two rectangles overlap.

They are lined up so the black circles overlap.

The shaded area shows where the two rectangles overlap.



What is the area of the non-shaded parts of the shape?

## Challenge 7



Today the ratio of  
my age to Anne's  
age is  $1 : 3$

In exactly 6 years  
time the sum of  
our ages is 84



Anne

How old was Anne this time last year?

## Answers

Challenge 1 - 14 cakes

Challenge 2 -

$$\text{●} = 4 \quad \text{▲} = 7 \quad \text{■} = 1 \quad \text{♥} = 13$$

Challenge 3 - 95

Challenge 4 - 85p

Challenge 5 -  $65^\circ$

Challenge 6 -  $87 \text{ cm}^2$

Challenge 7 - 53 years old