

# Number Nest Weekly Challenge



## Warm up

- a) What is 20% of 580?
- b) What is the fifth term of this sequence: 13, 7, 1...
- c) How long is 8.2m in mm?
- d) Express  $\frac{86}{36}$  as a simplified mixed fraction.

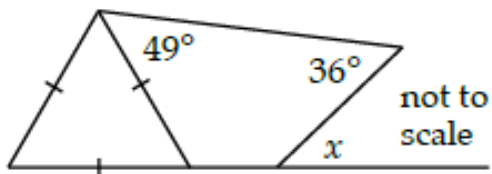
## Main challenge

1. Wendy the witch has a cauldron which weighs 23 kg when it's full of potion, after she uses half of the potion for spells, the cauldron weighs 13 kg. What is the weight of an empty cauldron?
  
  
  
  
  
  
  
  
  
  
2. The diagram shows a poster which Harry has on his wall. When Harry was standing on his head, looking in a mirror on the opposite wall at the poster on the wall behind him, how many letters could still be read in the normal way?  
  
a) 2      b) 3      c) 4      d) 5      e) 7



3. Sophie keeps cats and owls as pets. She has 35 pets in total, when she counts the number of paws and claws, she finds that it's 106. How many cats does Sophie have?

4. The diagram shows an equilateral triangle joined to a quadrilateral, two of whose angles are  $36^\circ$  and  $49^\circ$ . What is the size of angle  $x$ ?



















Hint: angles in a quadrilateral add up to 360 degrees, angles on a straight line add up to 180 degrees.

### Puzzle 1

Each Halloween object is worth a *different* integer value between 1 and 6 (inclusive).

Use the row totals to work out the value of each object.



				= 12
				= 20
				= 14
				= 16

Record the value of each Halloween object below..

















 
 
 


## Puzzle 2

Each Halloween object is worth a *different* integer value up to (and including) 7.

Use the row totals to work out the value of each object.



				= 23
				= 20
				= 26
				= 24

*Record the value of each Halloween object below..*

