

REASONING

5ER16

First name _____

Last name _____

School _____

Class _____

Date of birth

Date of test

Total score (maximum 20)



139142

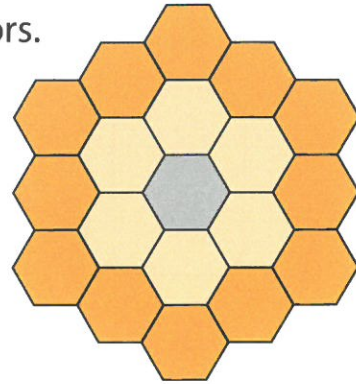


Llywodraeth Cymru
Welsh Government

The telescope has two 'rings' of hexagonal mirrors.

The 1st ring has **6** mirrors.

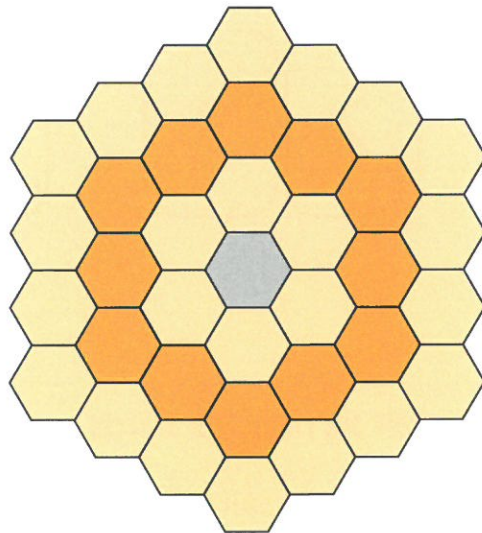
The 2nd ring has **12** mirrors.



Scientists would like bigger telescopes!

The 3rd ring would have **18** mirrors.

The number pattern continues.



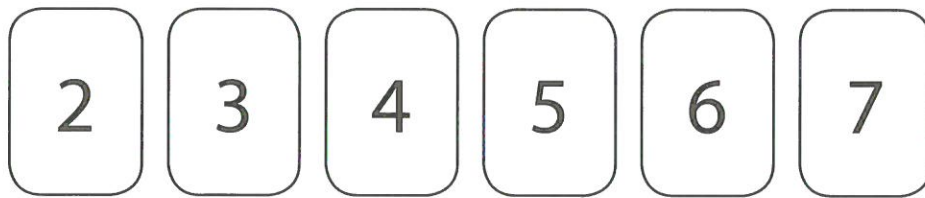
A telescope with **4** rings would have a lot of mirrors!

Altogether, in **all** the rings, how many mirrors would it have?

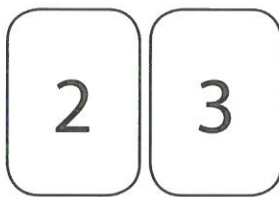


mirrors altogether

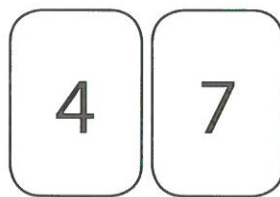
2 Here are six number cards.



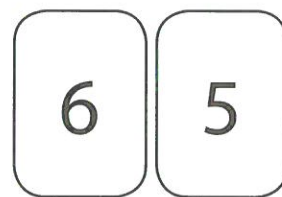
The cards can be put in pairs to make different totals.



Total 5



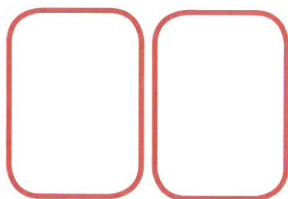
Total 11



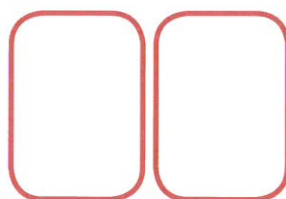
Total 11

Use all six number cards.

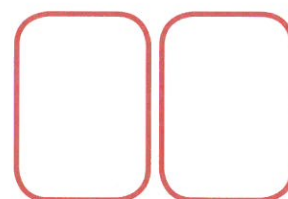
Put them in pairs to make the totals below.



Total 8



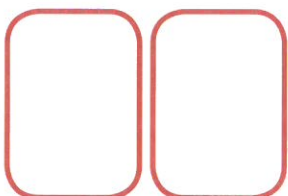
Total 9



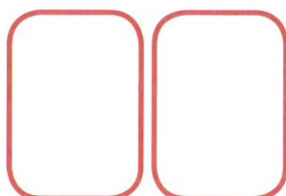
Total 10

Use all six number cards again.

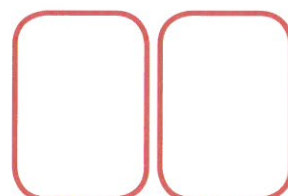
Show **different** pairs that make the totals.



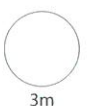
Total 8



Total 9






Total 10



3m

- 3 Here are some costs to make potato toys.

 <p>pair of eyes cost 10p</p>	 <p>eyes and hat cost 40p</p>	 <p>eyes and shoes cost 55p</p>
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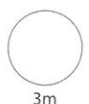
This potato has eyes, hat and shoes.

Work out the cost.

Hint: the answer is **not** 105p.







4 Eem lives on planet Sparg.

Ifor lives on planet Earth.



Eem

I am 4 Sparg
years old.
I am 20 spt tall.



Ifor

I am 12 Earth
years old.
I am 140 cm tall.

1 Sparg year = 2 Earth years

How old is Eem in Earth years?

Earth years

1m

How old is Ifor in Sparg years?

Sparg years

1m

Ifor and Eem are the **same** height, so

1 spt = cm

1m

5 In a classroom there are ...

- 28 pupils



- 1 chair for each pupil and 1 table for each pair



- a teacher



- a chair for the teacher and her own table.

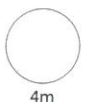


The people, the chairs and the tables all have legs.

Altogether, how many legs are there?



legs



TOTAL



