

SHEET 1...ANSWERS

28

2
 $1 \times 9 + 13 \times 7 = 100$
 $8 \times 9 + 4 \times 7 = 100$

1806

55MPH

(1,7,8), (2,6,8) (3,5,8)

181

SHEET 2...ANSWERS

9

8

484

42

288

**3 AND 251
OR
3 AND 521**

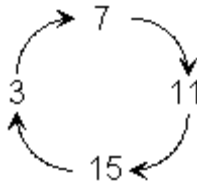
5

A chain of numbers is made by using the following rule:

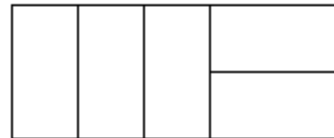
Divide by 5 if the number is divisible by 5 otherwise add 4.

For example, starting with the number 7, it can be seen that the chain has returned to 7.

What is the smallest integer that will never return to itself.



A pathway measuring 5m by 2m is paved with stones measuring 2m by 1m. One way in which the pathway could be paved is as follows.



How many different ways can the path be laid?

A PALINDROME IS A NUMBER WHICH READS THE SAME FORWARDS AND BACKWARDS. FOR EXAMPLE, THE NUMBER 232 IS A 3-DIGIT PALINDROME.

CAN YOU FIND A SQUARE 3-DIGIT PALINDROME, WHICH IS ALSO PALINDROMIC WHEN DIVIDED BY 2?

MR. AND MRS. ROBERTS HAVE TWO DAUGHTERS AND THREE SONS. AT EASTER TIME EVERY MEMBER OF THE FAMILY BUYS ONE CHOCOLATE EASTER EGG FOR EACH OTHER MEMBER. HOW MANY EASTER EGGS WILL BE BOUGHT IN TOTAL?



**FIND THE
SMALLEST
MULTIPLE OF
NINE
CONTAINING
ONLY EVEN
DIGITS.**

**FIND TWO PRIME NUMBERS THAT BETWEEN THEM
USE EACH OF THE FOUR DIGITS 1, 2, 3 AND 5
EXACTLY ONCE. FOR EXAMPLE, THE NUMBERS 53
AND 21 USE THE DIGITS BUT 21 ISN'T PRIME SO
THIS EXAMPLE DOESN'T WORK!**

how many of the
numbers under 100
that are divisible by 10
can you make by
adding four
consecutive integers?