

**Age 11+ Level ★  
Worksheet 2****1. What's on the Back?**

Four cards each have a number written on one side and a phrase written on the other. The four numbers are 2, 5, 7 and 12. The four phrases are "Divisible by 7", "Odd", "Prime" and "Greater than 100".

On each card, the number written **does not** have the property written on the other side of the card. What are the four number-property pairs?

**2. Divisible Digits**

I wrote down a 4-digit number that was divisible by 3, 4, 5 and 6, but I spilt a cup of tea on it and can only see the first two digits.

The first two digits are 95 (in that order). What were the last two?

**3. Pairing Up**

The numbers 72, 8, 24, 10, 5, 45, 36, 15 are grouped in pairs so that each pair has the same product. Which number is paired with 10?

**4. Tricky Customer**

Charlie wants to buy a new house but he doesn't like house numbers that are divisible by 3 or by 5.

If all the houses numbered between 100 and 150 inclusive are for sale, how many houses can he choose from?

**5. Calculation 2000**

What is the value of  $2000 + 1999 \times 2000$ ?

**6. Reversible Primes**

The integer 113 is prime, and its reverse, 311, is also prime.

How many two-digit primes are there between 10 and 99 which have the same property?

*These problems are adapted from UKMT ([ukmt.org.uk](http://ukmt.org.uk)) and WMC ([competition.ac](http://competition.ac)) problems.*