



Place Value, Integers, Ordering and Rounding

Age 14+ Level ★★ Worksheet 1

1. How Many Digits?

How many digits are there in this product:

$$38\ 659\ 893\ 456\ 789\ 325\ 678 \times 342\ 973\ 489\ 379\ 256?$$

2. Pros and Cons

If p is a positive integer and q is a negative integer, which of the following is the greatest?

$$p - q \quad q - p \quad p + q \quad -p - q$$

3. Sum Up

David listed ten consecutive numbers and removed one of them. The sum of the remaining numbers was 2012.

Which number did he remove?

4. Alberta's Age

The digits of Alberta's age are interchanged, and then 1 is added to the total. The answer is half of Alberta's present age.

How old is Alberta?

5. Equal Length Powers

How many positive integers n exist for which n^2 has the same number of digits as n^3 ?

6. Repeat Product

What is the value of $P+Q+R$ in this multiplication?

$$\begin{array}{r} P Q P Q \\ \times R R R \\ \hline 6 3 9 2 7 \end{array}$$

These problems are adapted from UKMT (ukmt.org.uk) and WMC (competition.ac) problems.