

**Objective:** Solve problems involving all four operations including using their knowledge of factors and multiples, squares and cubes.

### Year 6 Task:

**Maze**

Start with zero.  
Find a route from 'Start' to 'End' that totals 100 exactly.

Start	→ +6	→ ×9	→ ÷2
↓	↓	↓	↓
+9	→ ×7	→ ÷3	→ ×5
↓	↓	↓	↓
×5	→ -6	→ ×3	→ -5
↓	↓	↓	↓
÷3	→ ×7	→ -8	→ End

Which route has the highest total?  
Which has the lowest total?

Now try some different starting numbers.

Taken from

'Mathematical challenges for able pupils in Key Stage 1 and Key Stage 2.'

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### Worked example

4 = starting number

4  $\boxed{+6}$  = 10      10  $\boxed{\times 9}$  = 90      90  $\boxed{\div 2}$  = 45

45  $\boxed{\times 5}$  = 225      225  $\boxed{-5}$  = 220      END

End number is 220

**Variation**

What is the largest number you can make?

What is the smallest number you can make?

Can you find a starting number and path that gives you a total of  
100?