



# Mental Calculation

## Adding A Series of Numbers

1. Find the value of  $1 + 3 + 5 + 7 + 9 + 11 + 13 + 15 + 17 + 19 + 21 + 23 + 25 + 27 + 29 + 31 + 33 + 35 + 37 + 39 + 41 + 43 + 45$ .

### STRATEGY

Step 1:  $46 \div 2 = 23$  [divide the next even number by 2]

Step 2:  $23 \times 23 = 529$  [multiply the result obtained in step 1 by itself]

$$1 + 3 + 5 + 7 + 9 + 11 + \dots + 45 = 529$$

2. Find the value of  $2 + 4 + 6 + 8 + 10 + 12 + 14 + 16 + 18 + 20 + 22 + 24 + 26 + 28 + 30 + 32 + 34 + 36 + 38 + 40 + 42 + 44 + 46 + 48 + 50 + 52 + 54$ .

### STRATEGY

Step 1:  $54 \div 2 = 27$  [divide the largest number by 2]

Step 2:  $27 + 1 = 28$  [add 1 to the result obtained in step 1]

Step 3:  $27 \times 28 = 756$  [find the product of the results obtained in steps 1 and 2]

$$2 + 4 + 6 + 8 + 10 + \dots + 54 = 756$$

Do these sums mentally.

1  $1 + 3 + 5 + 7 + 9 + 11 + \dots + 39 =$

5  $2 + 4 + 6 + 8 + 10 + \dots + 98 =$

2  $1 + 3 + 5 + 7 + 9 + 11 + \dots + 53 =$

6  $2 + 4 + 6 + 8 + 10 + \dots + 32 =$

3  $1 + 3 + 5 + 7 + 9 + 11 + \dots + 79 =$

7  $2 + 4 + 6 + 8 + 10 + \dots + 74 =$

4  $1 + 3 + 5 + 7 + 9 + 11 + \dots + 93 =$

8  $2 + 4 + 6 + 8 + 10 + \dots + 52 =$

Answers: 1 400 2 729 3 1600 4 2209 5 2450 6 272 7 1406 8 702

Adapted:

Mental Mathematics Book 6

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