# Multiply 4-digit numbers by 2-digit numbers

Multiplication means repeated addition.

| | | |
|---|---|---|
| 1 547 × 26 | = □ ≈ 1 500 × 30 ≈ 45 000 | |
| 1 547 × 20 | = 1 547 × 10 × 2 = 15 470 × 2 = **30 940** | 1 547 × 26 |
| 1 547 × 6 | = (1 000 × 6) + (500 × 6) + (40 × 6) + (7 × 6) | 1 547 × 20 = 30 940 |
| | = 6 000 + 3 000 + 240 + 42 | 1 547 × 6 = 9 282 |
| | = **9 282** | 40 222 |
| 30 940 + 9 282 = 40 222 | | |

**1** Complete the questions that follow using the above method. Remember to estimate the answers first, and to check your final answers using a calculator.

**a** 1 628 × 72 **b** 5 043 × 71 **c** 8 008 × 41

_____ _____ _____

_____ _____ _____

_____ _____ _____

_____ _____ _____

**Multiply by splitting numbers into factors**

| | |
|---|---|
| 2 318 × 63 | 20 862 × 7 |
| 2 318 × 9 × 7 | = (20 000 + 800 + 60 + 2) × 7 |
| = 2 318 × 3 × 3 × 7 | = (20 000 × 7) + (800 × 7) + (60 × 7) + (2 × 7) |
| = (2 318 × 3) × 3 × 7 | = 140 000 + 5 600 + 420 + 14 |
| = (6 954 × 3) × 7 | = 146 034 |
| = 20 862 × 7 | |

**2** Write the factors.

**a** 16: _____ **b** 27: _____

**c** 45: _____ **d** 18: _____

A factor is a number that divides into another number without leaving a remainder, e.g. factors of 63 are 7, 9, 1 and 63. We used 9 and 7 to do this calculation.

**3** Write the HCF of:

**a** 16 and 18 _____ **b** 27 and 45 _____


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# More mulitplication

**1** Estimate, then use the method on page 22 to multiply.
Check your answers using a calculator.

**a** 14 287 × 8

**b** 1 086 × 23

**c** 6 581 × 14

**2** Do these questions using the column method. Estimate the answers first, and check your final answers using a calculator.

**a** 9 583 × 87

**b** 7 923 × 59

The column method

```
  1 327
×  35
  6 635   (1 327 × 5)
+ 39 810   (1 327 × 30)
  46 445
```

**3** Solve the problems below. Use any calculation methods you have learnt.

**a** Mr Adriaan pays his workers R987 a week.
How much does he pay them over 3 months? (Work on 4 weeks per month.)

**b** Mrs Nomdoe sells 234 bags at R75 each.
How much does she make?

**c** Work out the prices of tickets to the soccer game.

| **Tickets** | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---|---|---|---|---|---|---|---|---|---|
| **Cost** | R85 | R170 | | | | | | | |

**d** You get a discount for a block booking of 20 tickets. The discount is R5 off the price of every ticket.
How much will you pay for your block booking?

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