

Standard form

Revision questions: answers

Writing large and small numbers in standard form

- 1** 7.25×10^4
- 2** (a) 6×10^3 (b) 3.08×10^6
(c) 9×10^{-3} (d) 3.04×10^{-4}
- 3** (a) 3 000 000 (b) 20 700
(c) 0.05 (d) 0.000 061
- 4** $34 \times 10^5 = 3.4 \times 10^6$
 $0.7 \times 10^3 = 7 \times 10^2$
- 5** 5.8×10^7 km
- 6** Red blood cell, human hair, grain of sand, ant

Multiplying and dividing in standard form

- 7** (a) 8×10^8 (b) 1.5×10^5
(c) 3×10^6 (d) 2.5×10^{-8}
- 8** 5×10^{-1} m
- 9** 6×10^8 km

Adding and subtracting in standard form

- 10** (a) 6.3×10^4 (b) 8.1×10^6
(c) 2.6×10^{-3} (d) 6.5×10^{-2}
- 11** Ben added the powers as well as the num-

bers. The answer is $32\,000 = 3.2 \times 10^4$

- 12** 1.303×10^5 km

Standard form with a calculator

- 13** (a) 3.024×10^5 (b) 5.625×10^9
(c) 8×10^8 (d) 7×10^3
- 14** Without brackets, the calculator divides 4000 by 2 and then multiplies by 100. Ava needs brackets round each number, or the $\times 10^x$ key.

Problems with standard form

- 15** 1.28 seconds
- 16** 3.96×10^7 m
- 17** 2500
- 18** 280 people per km^2
- 19** 81 times

Problem solving

- 20** 11.1 hours
- 21** For example 2×10^2 and 3×10^3 ; 1.5×10^1 and 4×10^4 ; 6×10^{-1} and 1×10^6
- 22** 10^{10} , because $(2 \times 10^3)^3 = 8 \times 10^9$, which is less than $10 \times 10^9 = 10^{10}$