Solutions

Marking: **M1** a correct method, **A1** the correct answer.

Each answer shows the steps, then the **result**.

2.1

- enter as $(4.2 + 7.8) \div (3.5 - 1.1) = 12 \div 2.4$

$$= \mathbf{5}$$

2.2

- $6.4^2 + 4.8^2 = 40.96 + 23.04 = 64$

$$\sqrt{64} = \mathbf{8}$$

2.3

- multiply the numbers and add the powers: $2.5 \times 4 = 10$ and $10^4 \times 10^{-7} = 10^{-3}$
- 10×10^{-3} is not in standard form, so adjust

$$= \mathbf{1 \times 10^{-2}}$$

2.4

- $5.2^3 = 140.608$ and $\sqrt{19.36} = 4.4$

$$140.608 - 4.4 = \mathbf{136.208}$$

2.5

- $\dfrac{1}{0.25} = 4$ and $0.4^2 = 0.16$, so the answer is **4.16**

3.1

(a)

- $\dfrac{13.5}{3.375}$

$$= \mathbf{4.00}$$

(b)

- 4.00 to 1 decimal place

$$= \mathbf{4.0}$$

3.2

- $\sqrt[3]{1728} = 12$ and $\sqrt{2.25} = 1.5$

$$12 + 1.5 = \mathbf{13.5}$$

3.3

- `E-5` means $\times 10^{-5}$, so move the point 5 places left

$$= \mathbf{0.000\,036}$$

3.4

- divide the numbers and subtract the powers: $\dfrac{6.3}{1.8} \times 10^{5-(-2)} = 3.5 \times 10^7$

$$= \mathbf{3.5 \times 10^7}$$

3.5

(a)

- the numerator: $3.7^2 + 2.4 \times 5.1 = 13.69 + 12.24 = 25.93$, and $\sqrt{25.93} = 5.0921\ldots$

$$5.0921\ldots \div 1.6 = \mathbf{3.182594264}$$

(b)

- **3.2**