

Decimals

Maths

Level 2

Exam-style practice · 12 questions · 35 marks · Non-calculator

Remember

Place value: in 3.276 the 7 is 7 hundredths (0.07). $3.276 < 3.28$ because $0.276 < 0.280$.

Adding and subtracting: line up the decimal points. $12.5 + 3.75 \rightarrow$ write $12.50 + 3.75 = 16.25$.

Multiplying: $0.6 \times 1.4 \rightarrow 6 \times 14 = 84 \rightarrow$ two decimal places $\rightarrow 0.84$. **Multiplying by 10, 100, 1,000:** move the digits left.

Dividing by a decimal: make the divisor whole. $7.2 \div 0.4 = 72 \div 4 = 18$.

Money always has 2 decimal places: £4.5 $\rightarrow$ £4.50. 3.7 hours = 3 h 42 min (0.7×60), *not* 3 h 70 min.

Section A – Place value and ordering

1. Write down the value of the underlined digit: (a) 4.83 (b) 12.065 (c) 0.309 (3 marks)

2. A jeweller weighs five stones: 2.35 g, 2.305 g, 2.53 g, 2.05 g and 2.5 g. Write them in order, lightest first. (2 marks)

3. A machine part must measure between 8.45 mm and 8.55 mm. Which of these parts pass: 8.5, 8.455, 8.6, 8.549, 8.44? (2 marks)

Section B – Calculating with decimals

4. Work out: (a) $14.6 + 9.85$ (b) $20 - 7.35$ (c) 3.4×2.5 (d) 0.8×0.05 (e) $9.6 \div 0.3$ (f) $15.75 \div 5$ (6 marks)

5. Petrol costs 148.9p per litre. Ola buys 32 litres. How much does she pay, to the nearest penny? (2 marks)

6. Timber is sold in 2.4 m lengths at £6.85 each. A fence needs 11 lengths. What is the cost? (2 marks)

7. A cyclist rides 4.25 km, 6.8 km and 3.75 km on three days. Her weekly target is 20 km. How far short is she? (2 marks)

Section C – Decimals in context

8. Work out 3.6×100 , $0.045 \times 1,000$, $275 \div 100$ and $8.2 \div 1,000$. (4 marks)

9. Jamal works 7.75 hours on Monday and 6.5 hours on Tuesday at £13.20 an hour. What is he paid for the two days? (3 marks)

10. A shelf is 1.8 m long. Boxes are 0.35 m wide. How many boxes fit side by side, and how much space is left? (3 marks)

11. A phone contract costs £18.99 a month for 24 months plus a £49.50 upfront fee. What is the total cost? (2 marks)

12. Convert: (a) 2.75 hours to hours and minutes (b) 0.65 km to metres (c) 1,250 ml to litres (d) 3 h 12 min to a decimal number of hours (4 marks)

Decimals – Answers

Level 2 · Working shown so you can check your method, not just the final number.

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Section A

1. (a) 8 tenths (0.8) (b) 6 hundredths (0.06) (c) 3 tenths (0.3).
2. 2.05, 2.305, 2.35, 2.5, 2.53.
3. **8.5, 8.455 and 8.549** pass. 8.6 is too big; 8.44 is too small.

Section B

4. (a) **24.45** (b) **12.65** (c) **8.5** (d) **0.04** (e) $96 \div 3 = \mathbf{32}$ (f) **3.15**.
5. $148.9 \times 32 = 4,764.8\text{p} = \mathbf{£47.65}$.
6. $11 \times 6.85 = \mathbf{£75.35}$.
7. $4.25 + 6.8 + 3.75 = 14.8 \text{ km}$. $20 - 14.8 = \mathbf{5.2 \text{ km short}}$.

Section C

8. **360; 45; 2.75; 0.0082**.
9. $7.75 + 6.5 = 14.25 \text{ hours}$. $14.25 \times 13.20 = \mathbf{£188.10}$.
10. $1.8 \div 0.35 = 5.14\ldots \rightarrow \mathbf{5 \text{ boxes}}$. $5 \times 0.35 = 1.75 \text{ m}$; space left = **0.05 m (5 cm)**.
11. $18.99 \times 24 = 455.76$; $+ 49.50 = \mathbf{£505.26}$.
12. (a) $0.75 \times 60 = 45 \rightarrow \mathbf{2 \text{ h } 45 \text{ min}}$ (b) **650 m** (c) **1.25 litres** (d) $12 \div 60 = 0.2 \rightarrow \mathbf{3.2 \text{ hours}}$.

Where Level 2 students lose marks on this topic

- Treating decimal hours as minutes: 2.75 hours is 2 h 45 min, not 2 h 75 min.
- Losing a decimal place when multiplying ($0.8 \times 0.05 = 0.4$ instead of 0.04). Count the places in the question.
- Writing money with one decimal place (£47.6). Always two.