

1 Multiplying decimals



- a) Work out 1.2×0.035
b) $37 \times 24 = 888$. Use this to write down
 3.7×0.24 and 0.37×2400

a) $12 \times 35 = 420$, 4 decimal places
b) $888 \div 10 \div 100$, and
 $888 \div 100 \times 100$
a) 0.042 b) 0.888 and 888

2 Dividing decimals



- a) Pens cost £0.45 each. How many can
you buy with £12? How much change
is there?
b) Work out $7.5 \div 0.012$

a) $1200 \div 45 = 26 \text{ r } 30$
b) $7500 \div 12$
a) 26 pens, 30p change b) 625

3 Rounding to decimal places



- a) Round 0.09961 to 3 decimal places.
b) Lily rounds 5.649 to 1 decimal place.
She rounds it to 5.65 first, then to 5.7.
Explain why she is wrong.

a) 0.100
b) the 2nd decimal place is 4
b) she rounded twice; 5.649 is 5.6

4 Significant figures



- a) Round 0.0040582 to
3 significant figures.
b) Write down a number that is 5000 to
1 significant figure and 4500 to
2 significant figures.

a) 0.00406
b) $4500 \leq x < 4550$
b) such as 4520

5 Estimation



- a) Estimate the value of $\frac{387 + 214}{0.48}$
b) Estimate the value of $\sqrt{63.8} \times 4.92$

a) $\frac{400 + 200}{0.5} = \frac{600}{0.5}$
b) $\sqrt{64} \times 5 = 8 \times 5$
a) 1200 b) 40

Decimals and estimation

revision mat answers

6 Error intervals



- a) A height, h metres, is 1.8 m to
1 decimal place. Write the error interval
for h .
b) $y = 0.62$ to 2 significant figures.
Write the error interval for y .

a) $1.75 \leq h < 1.85$
b) $0.615 \leq y < 0.625$

7 Limits of accuracy



- a) A field is 120 m long to the nearest
10 m. Write down the shortest and the
longest it could be.
b) Mo says the upper bound of 7.3 cm, to
1 decimal place, is 7.349 cm. Why is the
upper bound 7.35 cm?

a) 115 m and 125 m
b) 7.3499 rounds to 7.3 too
b) all below 7.35 round to 7.3

8 Bounds in calculations



- a) A rectangle is 8 cm by 5 cm, both to the
nearest cm. Find the upper bound of
its area.
b) $a = 20$ to the nearest 10 and $b = 4$ to the
nearest whole number. Find the lower
bound of $\frac{a}{b}$.

a) $8.5 \times 5.5 = 46.75 \text{ cm}^2$
b) $15 \div 4.5 = 3\frac{1}{3}$

9 Fractions and decimals



- a) Write $\frac{7}{16}$ as a decimal.
b) Which of these fractions are
terminating decimals?
 $\frac{3}{20}$ $\frac{5}{12}$ $\frac{9}{40}$ $\frac{7}{35}$

a) 0.4375 b) $12 = 2^2 \times 3$, $\frac{7}{35} = \frac{1}{5}$
b) $\frac{3}{20}$, $\frac{9}{40}$, $\frac{7}{35}$

10 Recurring decimals



- a) Write $\frac{5}{11}$ as a recurring decimal.
b) Use algebra to write $0.\dot{2}4\dot{3}$ as a fraction
in its simplest form.

a) $0.\dot{4}\dot{5}$
b) $1000x - x = 243.243... - 0.243...$
b) $999x = 243$, $x = \frac{243}{999} = \frac{9}{37}$