



Multiplying and dividing

- The effects of multiplying and dividing by numbers between 0 and 1

Keywords

You should know

explanation 1

- 1 Rewrite each of these as a multiplication.

a $72 \div 6 = 12$ **b** $98 \div 2 = 49$ **c** $85 \div 5 = 17$ **d** $160 \div 20 = 8$

- 2 Rewrite each of these using an appropriate inverse operation.

a $26 \times 5 = 130$ **b** $195 \div 39 = 5$ **c** $63 \times 15 = 945$ **d** $336 \div 12 = 28$

- 3 Write each of these using an inverse operation and then check the answer using a calculator.

a $35.3 \times 7.1 = 250.63$ **b** $604.8 \div 7.2 = 84$ **c** $56.3 \times 4.9 = 275.87$
d $102.4 \div 6.4 = 16$ **e** $0.034 \times 24 = 0.816$ **f** $81.9 \div 9 = 9.1$

- 4 Find the answers to these without doing the calculations.

a $4.5 \times 7.3 \div 7.3$ **b** $89.7 \div 3.9 \times 3.9$
c $0.87 \times 32.98 \div 0.87$ **d** $3.9 \div 4.7 \times 4.7 \div 3.9$

explanation 2

- 5 Work these out, then arrange the answers in order from smallest to largest.

36×0.3 $36 \div 3$ 36×0.003 3×36 36×0.4

- 6 Write the missing word and give an example for each statement.

- a** Multiplying a positive number by a number between 0 and 1 gives an answer that is _____ than the original number.
b Dividing a positive number by a number between 0 and 1 gives an answer that is _____ than the original number.

- 7** Which of these calculations will have an answer less than 200?

Do not calculate the answers.

- a** 200×0.4 **b** $200 \div 0.2$ **c** $200 \div 0.5$ **d** $200 \div 0.004$
e $200 \div \frac{1}{20}$ **f** 200×0.004 **g** 200×4.5 **h** $200 \div 1\frac{1}{2}$
i $200 \div 54$ **j** 200×54 **k** $200 \div \frac{1}{5}$ **l** $200 \times 2\frac{1}{2}$

- 8** Which of these calculations have an answer greater than 0.4?

- a** $0.4 \div 0.1$ **b** $0.4 \times \frac{1}{10}$ **c** $0.4 \div 0.02$ **d** $0.4 \div \frac{1}{2}$ **e** 0.4×0.002
f 0.4×0.04 **g** 0.4×2.4 **h** $0.4 \div 24$ **i** $0.4 \div 2\frac{1}{2}$ **j** 0.4×24

- 9** Kezia did this calculation.

$$3.06 \times 0.4 = 12.24$$

How can you tell without doing it that her answer is wrong?

- 10** Raj worked in a laboratory.

For a certain test, normal results are between 3.6 and 5.9.

To find the test result he had to multiply two numbers together.

Which of these test results can you tell without calculating will NOT be in normal range?

- a** 2.4×0.9 **b** $3.6 \div 1.08$ **c** 3.6×1.2 **d** 5.9×1.08 **e** 4×0.98

- 11** Without doing the calculations, decide which of these are definitely wrong.

- a** $5.02 \times 0.3 = 15.06$ **b** $2.75 \div 0.02 = 1.375$ **c** $6.24 \times 1.2 = 7.488$
d $8.127 \div 1.4 = 58.05$ **e** $5.7 \div 0.04 = 0.228$ **f** $0.098 \times 36.3 = 3.5574$

- 12** Semba, the cat, was weighed as 3.64 kg.

The vet had to multiply this value by 0.45 ml and then round the answer to the nearest tenth of a millilitre to find the amount of medicine to give Semba.

The vet gave Semba one of these amounts of medicine. Which one?



- a** 16.4 ml **b** 4.2 ml **c** 1.6 ml **d** 163.8 ml