

Dividing decimals using the expanded written method of long division

- Use the expanded written method of long division to divide a decimal by a 2-digit number
- Estimate and check the answer to a calculation



Find the missing numbers.

- a $5.6 \times \text{leaf} = 560$ b $3.32 \times \text{leaf} = 332$ c $8.7 \times \text{leaf} = 87$
d $4.9 \times \text{leaf} = 49$ e $6.78 \times \text{leaf} = 678$ f $0.47 \times \text{leaf} = 47$
g $56.2 \times \text{leaf} = 562$ h $0.39 \times \text{leaf} = 39$ i $7.59 \times 100 = \text{leaf}$
j $\text{leaf} \times 100 = 345$ k $0.03 \times 100 = \text{leaf}$ l $\text{leaf} \times 10 = 21$
m $0.19 \times \text{leaf} = 19$ n $\text{leaf} \times 100 = 46$ o $1.11 \times \text{leaf} = 111$

- 1 For each division calculation write your estimate, then use the expanded written method to work out the answer. Choose your method from the examples given.

Example

$$58.32 \div 18$$

$58.32 \div 18$ is equivalent to $5832 \div 18 \div 100$

$$\begin{array}{r} 324 \\ 18 \overline{) 5832} \\ \underline{5400} \\ 4320 \\ \underline{3600} \\ 720 \\ \underline{720} \\ 0 \end{array}$$

(300×18)
(20×18)
(4×18)

$$324 \div 100 = 3.24$$

$$\begin{array}{r} 3.24 \\ 18 \overline{) 58.32} \\ \underline{54.00} \\ 4.32 \\ \underline{3.60} \\ 0.72 \\ \underline{0.72} \\ 0.00 \end{array}$$

(300×18)
(20×18)
(4×18)

a $25.2 \div 18$

b $93.6 \div 13$

c $68.40 \div 15$

d $58.86 \div 18$

e $27.56 \div 13$

f $68.4 \div 19$

g $79.42 \div 19$

h $89.6 \div 35$

i $15.84 \div 33$

- 2 Using each digit only once, make each of the following statements true.

- a $\boxed{0} \boxed{1} \boxed{2} \boxed{3} \boxed{8} \cdot \boxed{} \boxed{} \div \boxed{} \boxed{} = 1.6$
b $\boxed{0} \boxed{1} \boxed{3} \boxed{6} \boxed{8} \cdot \boxed{} \boxed{} \div \boxed{} \boxed{} = 1.7$
c $\boxed{1} \boxed{3} \boxed{4} \boxed{6} \boxed{8} \cdot \boxed{} \boxed{} \div \boxed{} \boxed{} = 2.4$
d $\boxed{1} \boxed{2} \boxed{3} \boxed{4} \boxed{5} \cdot \boxed{} \boxed{} \div \boxed{} \boxed{} = 3.8$

Hint

Each of the 2-digit numbers is a 'teen' number.

Challenge 3

- 1 Find the answer to each of these problems.

a 14 friends go to a cafe to celebrate a birthday. The bill comes to a total of £93.52. They share the cost equally between them. How much do they each pay?

b Jasper practises after school for the long jump competition. Each time he practises he jumps 15 times. In one afternoon he jumps a total distance of 78.75 m. What is the average length of each of his jumps?

c Miriam buys 15 m of fabric costing £26.50 per metre and 23 m of another fabric costing £16.25 per metre. Both fabrics are on sale at a 15% discount. How much does she pay in total?

d Marek buys 31 cupcakes to share with his friends. His bill is £74.40 and then he gets 10% off. How much does each cupcake cost him?

- 2 Write three different situations when you would divide numbers including decimals.

