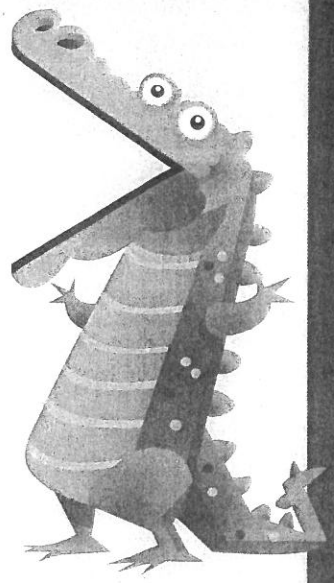
3-place decimal numbers

Compare these decimal numbers.
Write < or > between each pair.



1. 2·743 ____ 6·115
2. 0·625 ____ 0·817
3. 0·919 ____ 0·482
4. 4·516 ____ 7·064
5. 0·302 ____ 0·203
6. 0·529 ____ 0·597

Write these decimal numbers in figures.

7. One one, nine tenths, three hundredths, two thousandths.
8. Six ones, four tenths, one hundredth, seven thousandths.
9. Zero ones, eight tenths, five hundredths, one thousandth.
10. Two ones, three tenths, eight thousandths.
11. Six hundredths, two tenths, three ones, four thousandths.
12. Seven thousandths, two tenths, seven ones, three hundredths.

THINK How many 3-place decimal numbers come between 0·23 and 0·24? Write them all down.

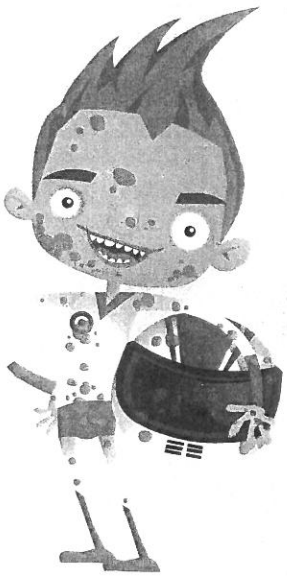
○ ○ ○ **I am confident with reading and writing decimal numbers.**

Compare these decimal numbers. Write < or > between each pair.

1. 0·672 0·626
2. 0·404 0·401
3. 0·742 7·402
4. 6·635 6·351
5. 5·701 5·071
6. 9·332 9·233

Write these decimal numbers in figures.

7. Three ones, four tenths, one hundredth, eight thousandths.
8. Two ones, four hundredths, nine thousandths.
9. Six ones, five tenths, two thousandths.
10. Seven ones, seven thousandths.
11. Six ones, seven thousandths, three tenths.
12. Five ones, five tenths, one thousandth.
13. Three tenths, five hundredths, seven thousandths.



Write these numbers in order from smallest to largest.

14. 0·382, 0·791, 0·452
15. 2·167, 0·285, 1·266

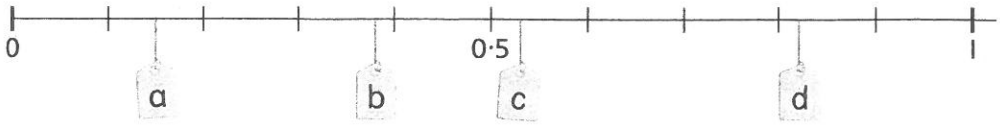
THINK

Which 3-place decimal number comes halfway between 0·97 and 1·07?

- ● I am confident with reading and writing decimal numbers.

Write the value of each letter as a 2-place decimal.

1



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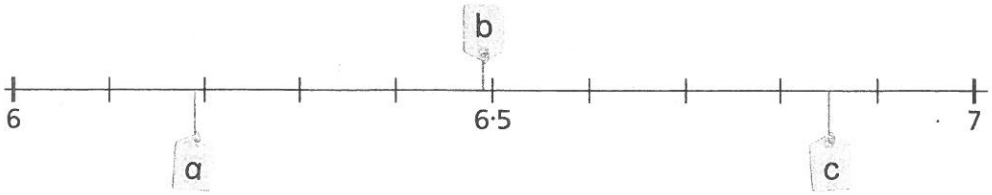

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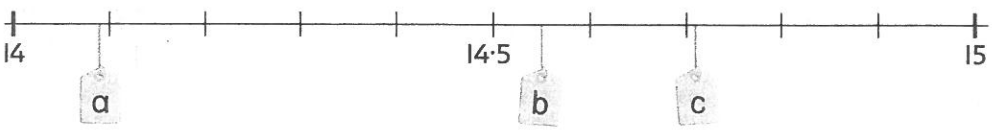


Round these numbers to the nearest tenth.

4 0·68

5 2·41

6 7·52

7 1·73

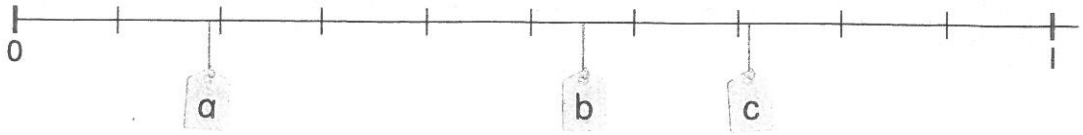
8 14·89

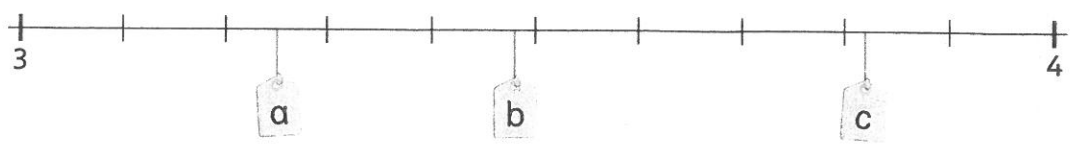
9 11·82

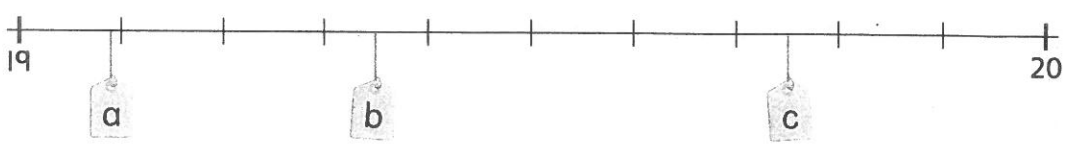
How many 1-place decimal numbers round to 1?

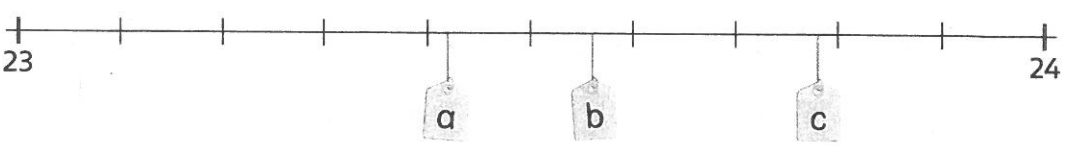
I am confident with ordering and rounding decimal numbers.

Write the value of each letter as a 2-place decimal.

1 

2 

3 

4 

Round these numbers to the nearest tenth.

5 0·62

6 1·48

7 12·83

8 16·19

9 14·14

10 7·31

Write all the 2-place decimal numbers that round to 2·5.

I am confident with ordering and rounding decimal numbers.

Follow these instructions to show decimal numbers on number lines.

1. Draw a number line between 0 and 1.
   Mark on: 0·45, 0·68 and 0·91.

2. Draw a number line between 15 and 16.
   Mark on: 15·75, 15·32 and 15·01.

3. Draw a number line between 3·5 and 4·5.
   Mark on: 3·85, 4·17 and 4·34.

Round these numbers to the nearest tenth.

4. 0·57
5. 12·25
6. 8·81
7. 13·38
8. 4·16
9. 15·54

Round these numbers to the nearest hundredth.

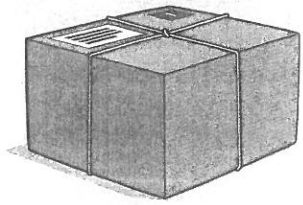
10. 0·621
11. 0·876
12. 0·123
13. 0·465

THINK

If you write out every number between 0 and 1 as a 2-place decimal, how many round down to 0? How many round up to 1?

I am confident with ordering and rounding decimal numbers.

On your own, or with a partner, solve these problems.



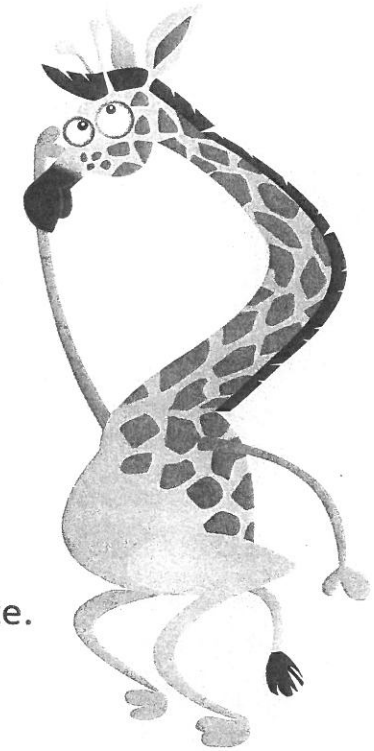
Jennie has been sent a mystery parcel. She must work out its weight before she can open it. She has the following information.

- The parcel's weight is greater than 0 kg and less than 1 kg.
- Written in kilograms, the parcel's weight is a 3-place decimal whose thousandths digit is not zero.
- The weight includes at least one digit that is a 5.

1. Work out how many possible weights match the information above.

Look at the table and draw a similar one with as many rows as you need to show your findings.

1s	$\frac{1}{10}$ (0·1s)	$\frac{1}{100}$ (0·01s)	$\frac{1}{1000}$ (0·001s)
0	5	0	1
0	5	0	2
0	5		

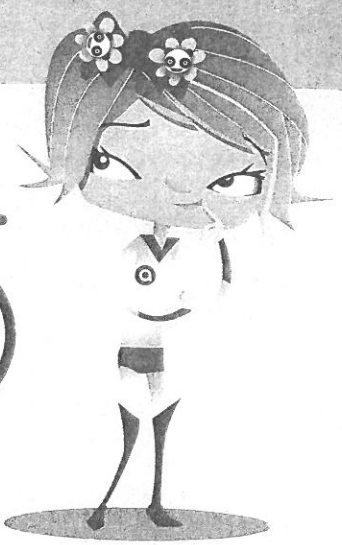


2. Jennie is given more information. The parcel has a weight that has exactly two 5s in it. Work out how many possible weights now match the information you have.

3. Finally Jennie is given more information. The grams part of the weight has two 5s and a zero. The zero is not in the tenths place. What is the weight of the parcel? Write your answer in kilograms and then in grams.

I am confident with solving problems using decimal numbers.

Using division to find fractions of amounts



Solve these divisions.

1 a) 744 ÷ 6 = ☐
b) 74·4 ÷ 6 = ☐
c) 7·44 ÷ 6 = ☐

2 a) 528 ÷ 4 = ☐
b) 52·8 ÷ 4 = ☐
c) 5·28 ÷ 4 = ☐

3 a) 516 ÷ 3 = ☐
b) 51·6 ÷ 3 = ☐
c) 5·16 ÷ 3 = ☐

4 a) 963 ÷ 9 = ☐
b) 96·3 ÷ 9 = ☐
c) 9·63 ÷ 9 = ☐

5 a) 966 ÷ 7 = ☐
b) 96·6 ÷ 7 = ☐
c) 9·66 ÷ 7 = ☐

6 a) 1144 ÷ 8 = ☐
b) 114·4 ÷ 8 = ☐
c) 11·44 ÷ 8 = ☐

Now solve these word problems.

7 Nolberto needs to save £555 for a holiday in six months' time. If he saves the same amount each month for six months, how much must he save each month?

8 Mr Jones wins £253 and decides to give it to his four sons. How much do they each get if it is shared equally?

9 Eight children go on a week's holiday. They take a total of £580 in spending money. If each child takes the same amount, how much does each of them have?

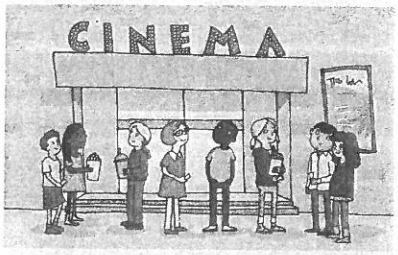
THINK Choose the two questions you found trickiest and use multiplication to check your answers.

- **I am confident with using division to find fractions of amounts.**

How much does each child pay?

Different groups of children in Year 6 choose different end-of-term activities. Each group shares the cost of their activity equally. Work out how much each child will pay.

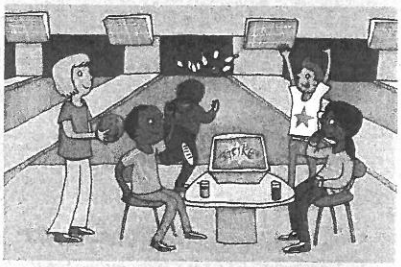
1



Total cost = £86·40

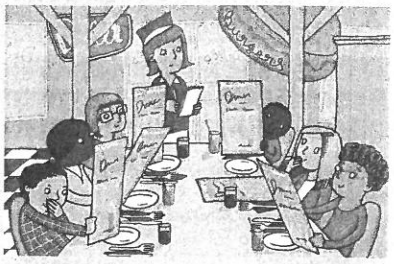
$\frac{1}{8}$ of £86·40 = ☐

2



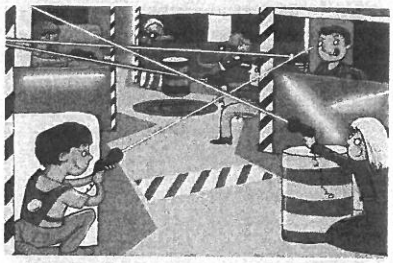
Total cost = £48·00

3



Total cost = £76·80

4



Total cost = £102·20

Find the fractions of these decimal numbers.

5 $\frac{1}{5}$ of 181·5

6 $\frac{1}{4}$ of £210·40

7 $\frac{1}{8}$ of £356·80

8 $\frac{1}{6}$ of 828 kg

9 $\frac{1}{9}$ of 202·5 cm

10 $\frac{1}{6}$ of 319·2

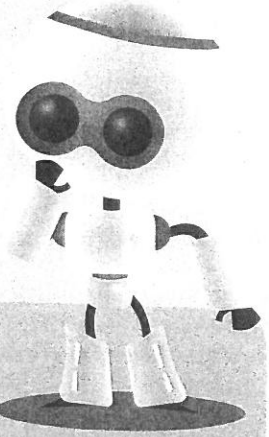
11 $\frac{1}{5}$ of 131·5 m

12 $\frac{1}{3}$ of 861·6 km

13 $\frac{1}{7}$ of 882

14 $\frac{1}{8}$ of 623·2 l

To help you answer the question, multiply by 10 or 100 to get rid of the decimal point. Then divide by 10 or 100 at the end.



THINK

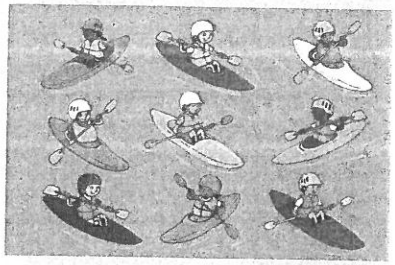
Is $\frac{1}{6}$ of 166 less than $\frac{1}{7}$ of 155? Estimate first then work out both to check your answer.

- I am confident with using division to find fractions of amounts.

How much does each child pay?

Different groups of children in Year 6 choose different end-of-term activities. Each group shares the cost of their activity equally. Work out how much each child will pay

1



Total cost = £202·50

$\frac{1}{9}$ of £202·50 = ☐

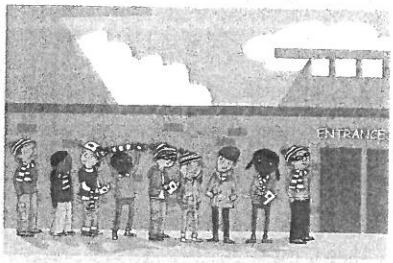
2

Total cost = £58·80

3

Total cost = £146·80

4



Total cost = £131·40

Now solve these word problems.

5 A group of four friends go out for dinner. The bill comes to £85·44. They decide to round it up to £100 as a tip. How much does each person pay towards the bill, and towards the tip?

6 Aswin needs to save £554 for a holiday in eight months' time. If he saves the same amount each month, how much must he save each month? If he saves £70 each month instead, how much extra will he save?

7 Mr Jones wins £537 in a competition. He spends £86 on himself and decides to give the rest to his four daughters. How much do they each get if it is shared equally?

THINK

Is $\frac{1}{8}$ of 777 larger or smaller than $\frac{1}{9}$ of 888? Estimate first and then work out the divisions to check.

- **I am confident with using division to find fractions of amounts.**

Dividing 4-digit numbers by 2-digit numbers

Use long division to solve these problems.

$5836 \div 24 = \square$

$$
\begin{array}{r}
200 + 40 + 3, \text{r}4 \\
24 \overline{)\,5836} \\
-\,4800 \\
\hline
1036 \\
-\,960 \\
\hline
76 \\
-\,72 \\
\hline
4
\end{array}
$$

24	144
48	168
72	192
96	216
120	240

1. $3699 \div 24 = \square$
2. $6742 \div 31 = \square$
3. $4678 \div 23 = \square$
4. $4578 \div 32 = \square$
5. $2465 \div 22 = \square$
6. $6487 \div 31 = \square$
7. $5876 \div 23 = \square$
8. $8764 \div 26 = \square$
9. $4445 \div 22 = \square$
10. Bottles in a factory are packed into crates that hold 24 bottles. How many crates are needed to hold 3699 bottles?
11. A company must supply at least 4658 flashcards to a distributor in 32 days' time. The machine that makes the flashcards is programmed to make the same whole number each day. How many should it be programmed for?
12. A shop buys jackets for £26. How many of them can they buy with £1745?

THINK If a whole number ending in 0 is divided by a 2-digit number ending in 2, the answer never has a remainder. Is this true? Try some divisions to find out.

- **I am confident with using long division to divide 4-digit numbers by 2-digit numbers.**

Set out these problems and solve them using long division.

1 $2563 \div 33 = \square$

2 $5783 \div 27 = \square$

3 $5353 \div 34 = \square$

4 $6463 \div 42 = \square$

5 $2856 \div 33 = \square$

6 $7253 \div 24 = \square$

7 $6234 \div 42 = \square$

8 $7426 \div 26 = \square$

9 $3068 \div 27 = \square$

10 $9321 \div 33 = \square$

11 $4024 \div 27 = \square$

12 $7255 \div 24 = \square$

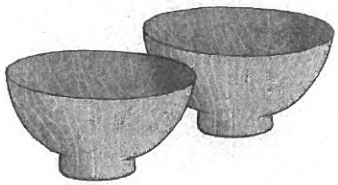
13 $6666 \div 34 = \square$

14 $2652 \div 27 = \square$

15 $9678 \div 42 = \square$

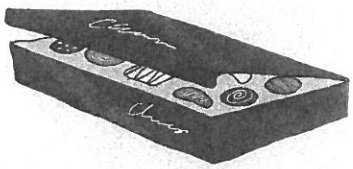
16 A company must supply at least 4024 batteries to a distributor in 27 days' time. The machine that makes the batteries is programmed to make the same whole number each day. How many should it be programmed for?

17 A craftsman wants to make 1646 wooden bowls over the next two years. How many bowls should he aim to make each month?



18 A shop buys mobile phones for £42. How many of them can they buy with £1745?

19 In a chocolate factory individual chocolates are put into boxes of 26. How many boxes can be filled with 3643 chocolates?



THINK 3001 is divided by an odd number and has a remainder of 5. What is the answer to the division?

I am confident with using long division to divide 4-digit numbers by 2-digit numbers.