

Exercise 1-10

- 1 Find the value of the digit 7 in:
- | | | | |
|-----------|---------------|----------|--------------|
| a 66.0735 | b 2.070 000 5 | c 1.0075 | d 542.123 87 |
| e 893.715 | f 0.000 507 | g 0.507 | h 14.0507 |
- 2 How many decimal places are there in each of the following?
- | | | | |
|----------|----------|-------------|----------|
| a 47.01 | b 3.002 | c 5.621 | d 47.84 |
| e 874.25 | f 33.052 | g 0.000 073 | h 8.1 |
| i 0.0003 | j 352.7 | k 16.605 | l 0.7002 |

Example 32 → 3 Express each of these as a decimal.

- | | | | | |
|-----------------------------|---------------------|------------------------|-------------------------|-------------------------|
| a $\frac{17}{100}$ | b $\frac{9}{10}$ | c $\frac{7}{1000}$ | d $\frac{185}{1000}$ | e $\frac{748}{1000}$ |
| f $\frac{5}{10}$ | g $\frac{33}{100}$ | h $\frac{81}{10\,000}$ | i $\frac{575}{1000}$ | j $\frac{32}{100\,000}$ |
| k $\frac{605}{1\,000\,000}$ | l $\frac{48}{1000}$ | m $\frac{81}{100}$ | n $\frac{143}{10\,000}$ | o $\frac{12}{100\,000}$ |

Example 33 → 4 Express each of the following in fraction form.

- | | | |
|------------|-------------|---------------|
| a 0.77 | b 0.9 | c 0.003 |
| d 0.0011 | e 0.13 | f 0.701 |
| g 0.003 79 | h 0.3 | i 0.061 |
| j 0.07 | k 0.000 007 | l 0.3503 |
| m 0.0707 | n 0.03 | o 0.000 001 3 |

Example 34 → 5 Write each of the following as a decimal.

- | | | | |
|--------------------|-------------------|---------------------|----------------------|
| a $\frac{7}{10}$ | b $\frac{8}{100}$ | c $\frac{23}{1000}$ | d $\frac{561}{1000}$ |
| e $\frac{5}{8}$ | f $\frac{4}{5}$ | g $\frac{11}{4}$ | h $\frac{7}{25}$ |
| i $3\frac{1}{2}$ | j $\frac{17}{40}$ | k $\frac{11}{20}$ | l $8\frac{3}{4}$ |
| m $\frac{39}{200}$ | n $\frac{27}{50}$ | o $\frac{37}{40}$ | p $2\frac{3}{8}$ |

Exercise 1-11

- 1 State whether each of the following is true (T) or false (F).
- | | | | |
|---------------------|------------------|-------------------|------------------|
| a $0.05 > 0.03$ | b $0.71 < 0.09$ | c $0.01 < 0.003$ | d $0.42 < 1.3$ |
| e $0.81 > 0.795$ | f $0.5 < 0.63$ | g $1.03 < 1.3$ | h $0.63 > 0.603$ |
| i $0.1001 < 0.0101$ | j $7.73 > 7.097$ | k $14.098 < 14.7$ | l $3.74 > 3.8$ |
- 2 You can use a spreadsheet to check your answers for Question 1. Use this link to see how.
- 3 Arrange each of these sets of numbers in ascending order:
- | | |
|--------------------|----------------------------|
| a 0.7, 0.77, 0.707 | b 3.6, 3.601, 3.61, 3.0677 |
|--------------------|----------------------------|
- 4 a Arrange the numbers 0.303, 0.33, 3.003 and 0.0333 in descending order.
 b Write the numbers 6.31, 6.1, 0.76 and 6.3 in ascending order.
 c Choose the smallest number: 0.7, 0.077, 0.0888, 0.1.
- 5 a Dat's time for running 100 m was 12.01 seconds, while Kevin's time was 11.9 seconds. Who was the slower runner?
 b A swimmer's times for swimming 100 m over a five week training period were 60.61 seconds, 59.95 seconds, 59.96 seconds, 60.09 seconds and 60.1 seconds.
 i What was the swimmer's slowest time?
 ii What was the swimmer's fastest time?
 c A diver obtains the following scores for a dive from seven judges:
 6.0 7.5 7.0 8.5 7.5 6.5 8.0
- The highest and lowest scores are to be crossed out, and the rest are to be totalled to obtain the diver's final score. Which of the given scores will be crossed out?

Example 35

Spreadsheet
1-03

Comparing
decimals

Example 36

14 Complete this table.

Percentage	Equivalent fraction	Equivalent decimal
150%	$1\frac{1}{2}$	1.5
a	$\frac{1}{5}$	b
c	d	0.25
e	f	0.75
g	$2\frac{1}{2}$	h
100%	i	j

Non-calculator strategies and percentages

Some percentages are easy to calculate without a calculator. The trick is to remember that a percentage means 'the number for every hundred'.

cd
teacher's
resource

2.4
Further
percentages:
worksheet

Example 8

What is 5% of 400?

Solution 8

5% means 5 for every hundred. There are 4 hundreds in 400.

$$\begin{aligned} 5\% \text{ of } 400 &= 5 \times 4 \\ &= 20 \end{aligned}$$

Did you know?

In a lion pack the female lions do over 90% of the hunting for food. Males are afraid of getting hurt!

Exercise 2:4

Complete this worksheet without using a calculator.

1 How many hundreds are there in each of the following amounts?

- a 700 b 800 c 200 d 350
e 1200 f 1800 g 1650 h 750

2 Calculate these amounts.

- a 5% of 600 b 5% of 800 c 2% of 300
d 3% of 500 e 7% of 1000 f 1.5% of 400

3 What are these amounts?

- a 6% of \$200 b 12% of \$200 c 8% of \$1
d 6% of \$2 e 4% of \$3 f 12% of \$8

4 Calculate these amounts.

- a 15% of 1 m b 10% of \$1.50 c 8% of 2.5 m

5 Lisa received a 10% discount when she bought a new dress worth \$200. How much did Lisa pay for the dress?

6 Little Lake Council will not approve a building application if the building covers more than 50% of the block of land. Jackie's block of land is 800 square metres. What is the floor area of the largest house the council will allow her to build on the land?

7 In 1900 the grey seal population in the Baltic Sea was 100 000. As a result of pollution, the seal population in 2002 was only 2% of the 1900 population. What was the seal population in 2002?



→ Hint

In question 3, change small dollar amounts to cents.