Had a look ☐ Nearly there ☐ Nailed it! ☐

# Place value

The value of each digit in a number depends on its position. Digits that are further to the left are worth more. You can use a place value diagram to help you read and write numbers.

## Worked example

Target grade 1

Write these amounts in order, smallest first. **(1 mark)**

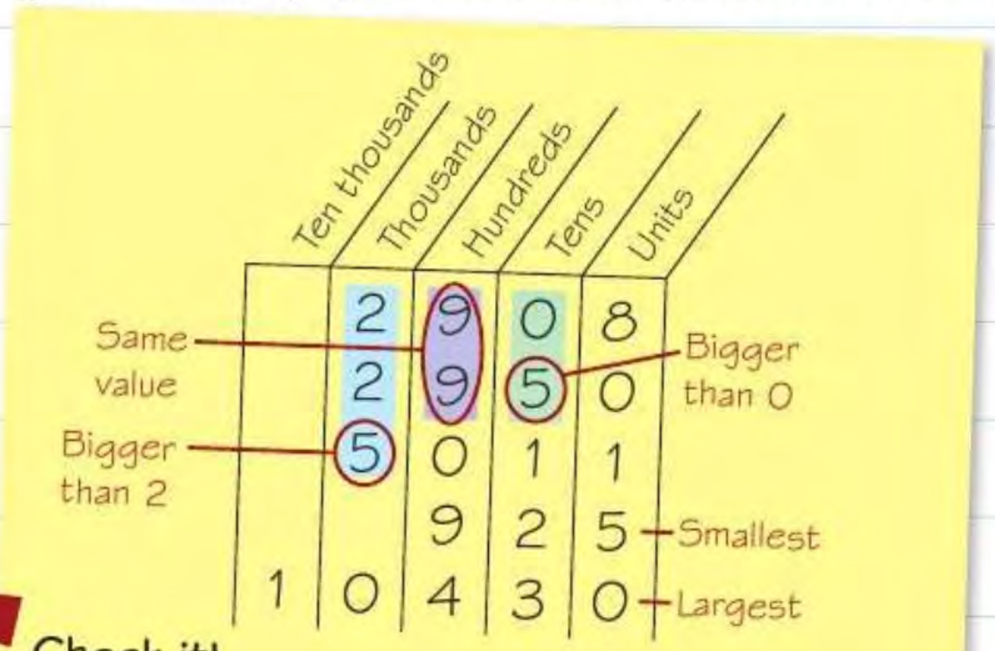
£2908 £2950 £5011 £925 £10 430

£925

£925 £10 430

£925 £5011 £10 430

£925 £2908 £2950 £5011 £10 430




**Check it!**
Have you included all the amounts in your final answer? ✓

### Working with money

- Do all your calculations in the same units, either £ or p.
- Write either £ or p in your answer, but not both.
- 100p = £1
- Amounts in pounds need 2 decimal places. Write 280p as £2.80.

## Worked example

Target grade 1

A music website sells songs and albums.
Songs cost 79p each.
Albums cost £6.99 each.
Aaron has a £25 gift card.
He buys 2 albums and spends the rest on songs.
How many songs can he afford? **(2 marks)**

$2 \times 6.99 = 13.98$

$25 - 13.98 = 11.02$

$11.02 \div 0.79 = 13.949...$

Aaron can buy 13 songs.

## Examiners' report

You can get credit for attempting the correct calculation, so make sure you show all your working. Write neatly, and copy any numbers from the question carefully.
Make sure you read the question carefully – your final answer needs to be a **number of songs**, not an amount of money.
Choose whether you want to work in pounds or pence, and remember to round down because Aaron can only buy a **whole number** of songs.

Real students have struggled with questions like this in recent exams – **be prepared!**

## Now try this

Target grade 1

1 Write these amounts in order, smallest first:
£1974 £974 £1749 £1497 £1947 **(1 mark)**

**Profit** is money you make, and **loss** is money you lose. You need to **add** the individual profits, then **subtract** the individual losses.

2 Mark buys and sells used cars. The table shows information about five cars that Mark bought and sold.

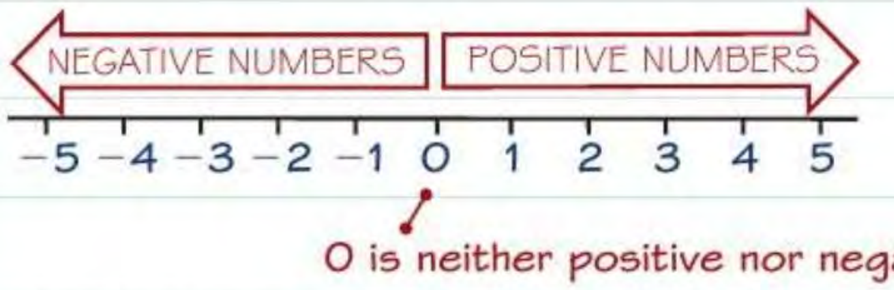
| Car | A | B | C | D | E |
|---|---|---|---|---|---|
| bought | £2200 | £7800 | £4200 | £..... | £6500 |
| sold | £2900 | £9000 | £..... | £11 200 | £5750 |
| profit or loss | £700 profit | £..... ..... | £1500 loss | £500 profit | £..... ..... |

(a) Complete the table. **(2 marks)**
(b) Work out Mark's total profit or loss for these five cars. **(2 marks)**

Had a look ☐ Nearly there ☐ Nailed it! ☐

# Negative numbers

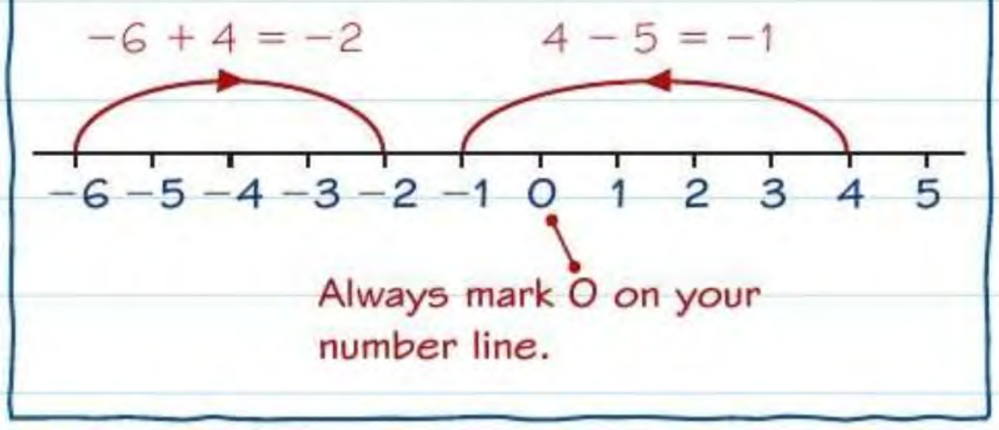
Numbers less than than 0 are called **negative** numbers.




You can use a number line to write numbers in order of size. The numbers get bigger as you move to the right.

## Number lines

You can use number lines to help when adding and subtracting.




## Adding and subtracting

To add or subtract a negative number, change the double signs first.

+ − → −

12 + −3 = 12 − 3 = 9

− − → +

5 − −9 = 5 + 9 = 14

### Golden rule

When you **add** a negative number the answer is **lower**.
When you **subtract** a negative number the answer is **higher**.

## Multiplying and dividing

When multiplying and dividing, use these rules to decide whether the answer will be positive or negative.

1. If numbers have the **same** sign then the answer is **positive**.
   −3 × −7 = 21
2. If numbers have **different** signs then the answer is **negative**.
   +80 ÷ −10 = −8

**Problem solved!** One strategy is to try a few pairs and add up the totals. You could also work out what each total should be by adding together all 6 cards then dividing by 3:

−4 + −3 + 0 + 2 + −6 + −1 = −12

−12 ÷ 3 = −4

**Check it!**

Make sure you have used each card exactly once. ✓

## Worked example

Target grade 1

Here are six number cards.

| −4 | −3 | 0 | 2 | −6 | −1 |
|---|---|---|---|---|---|

Sort the cards into three pairs so that each pair has the same total. **(2 marks)**

| | | | |
|---|---|---|---|
| −4 | and | 0 | Total = −4 |
| −3 | and | −1 | Total = −4 |
| −6 | and | 2 | Total = −4 |

## Now try this

Target grade 1

1 (a) Work out −2 + −4
(b) Work out −1 − −6
**(2 marks)**

2 (a) Work out −4 × −12
(b) Work out 30 ÷ −5
**(2 marks)**

Worked solution video

3 Here are six number cards.

| −10 | −3 | 1 | 2 | −9 | −5 |
|---|---|---|---|---|---|

Sort the cards into three pairs so that each pair has the same total. **(2 marks)**

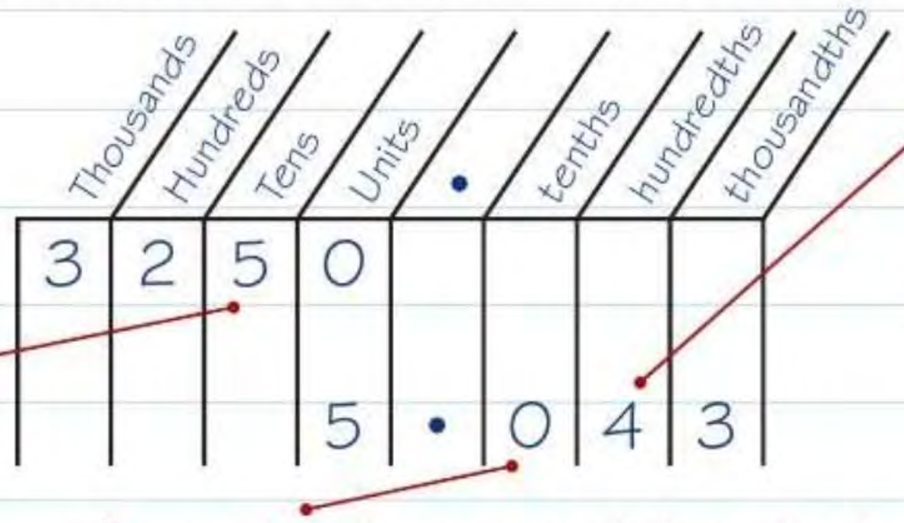
Try a few pairs and add up the totals.

Had a look ☐ Nearly there ☐ Nailed it! ☐

# Rounding numbers

To **round** a number, you look at the next digit to the right on a place value diagram.

5 or more → round up, less than 5 → round down




To round to the nearest 100, you look at the digit in the tens column. It is a 5, so round up. 3250 rounded to the nearest 100 is 3300.

To round to 1 decimal place (1 d.p.), you look at the digit in the second decimal place. It is a 4, so round down. 5.043 rounded to 1 d.p. is 5.0 You **need** to write the 0 to show that you have rounded to 1 d.p.

To round to the nearest whole number look at the digit in the tenths column. It is a 0, so round down. 5.043 rounded to the nearest whole number is 5.

## Significant figures

You always start counting **significant figures** from the first non-zero on the left.

27.05 rounded to 1 s.f. is 30 — The first non-zero digit is 2. The next digit is 7, so round up to give an answer of 30.

27.05 rounded to 2 s.f. is 27 — Look for the two digits furthest to the left, which are 2 and 7. The next digit is 0, so round down to give an answer of 27.

27.05 rounded to 3 s.f. is 27.1 — The first three significant figures are 2, 7 and 0. The next digit is 5 so round up to 27.1.

## Numbers less than 1

When rounding numbers less than 1 to a given number of significant figures, remember **not** to count zero digits that are on the left.

0.0085 rounded to 1 s.f. is 0.009 — Look for the digit which is furthest to the left and which is **not** a zero. This digit is 8. The next digit is 5 so round up to give an answer of 0.009.

## Worked example

Target grade 3

Round 6.9083 correct to
(a) 1 significant figure
(b) 2 significant figures
(c) 3 significant figures. **(3 marks)**

(a) 7 (1 s.f.)
(b) 6.9 (2 s.f.)
(c) 6.91 (3 s.f.)

The width of the cooker is given to the nearest whole unit. So it might be **inaccurate** by up to half a unit in either direction. Show Supraj is wrong by giving an example of a width larger than 76 cm that would round to 76 cm.

There is more about rounding errors on page 32.

## Now try this

Target grade 1

1 Round the number 3756
(a) to the nearest 100 **(1 mark)**
(b) to the nearest 10 **(1 mark)**

Target grade 2

2 Write these numbers correct to 1 significant figure:
(a) 48 **(1 mark)**
(b) 3025 **(1 mark)**
(c) 0.00939 **(1 mark)**
(d) 6.5 **(1 mark)**

Worked solution video

Target grade 3

3 Round 0.179554 to 3 significant figures. **(1 mark)**

Target grade 4

4 Supraj is installing a kitchen. He orders a cooker that is 76 cm wide, to the nearest cm. He says: 'If I leave a gap exactly 76 cm wide the cooker will definitely fit perfectly.' Explain why Supraj is wrong. **(1 mark)**

Had a look ☐ Nearly there ☐ Nailed it! ☐

# Adding and subtracting

You need to be able to add and subtract numbers without a calculator.

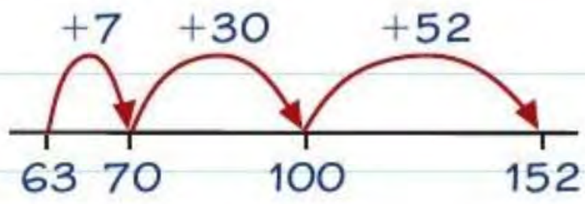
## Mental methods

Try these methods for adding and subtracting quickly in your head.

213 + 79

Add the tens first then the units.
213 + 79 = 292

152 − 63




Count on in steps from 63 up to 152. Add up the steps to work out the difference between 152 and 63.
7 + 30 + 52 = 89
152 − 63 = 89

## Worked example

Target grade 1

Work out 285 + 56 + 1091 **(2 marks)**

```
  285
   56
+ 1091
 1432
  2 1
```

1. **Always** add the units column first: 5 + 6 + 1 = 12. Write down the 2 and carry the **1** over to the tens column.
2. Add the tens column: 8 + 5 + 9 + **1** = 23. Make sure you include any numbers you carried over. Write down the 3 and carry the **2** over to the hundreds column.
3. Add the hundreds column: 2 + 0 + **2** = 4. Write down 4.
4. There is only one digit in the thousands column. Write this in your answer.

## Worked example

Target grade 1

Work out 418 − 62 **(2 marks)**

```
 3 1
 4 18
− 62
 356
```

1. **Always** subtract the units column first: 8 − 2 = 6. Remember it is (top number) − (bottom number).
2. Look at the tens column. 1 is smaller than 6 so you have to exchange 1 hundred for 10 tens. Change 4 hundreds into 3 hundreds and 10 tens.
3. Now you can subtract the tens column: 11 − 6 = 5.
4. There is nothing to subtract in the hundreds column so write 3 in your answer.

## Now try this

Target grade 1

**1** Work out
(a) 503 + 1126 + 85 **(2 marks)**
(b) 745 + 283 **(2 marks)**

**2** (a) Work out 627 − 251 **(2 marks)**
(b) How much is 831 − 659? **(2 marks)**

**3** Joe buys a magazine costing £4.45 and two birthday cards costing £1.99 each. He pays with a £10 note. How much change will he receive? **(3 marks)**

Scan this QR code to watch a video of this question being solved.

Worked solution video

You can work in pence so you don't have to use decimal numbers. Work out 445 + 199 + 199, then subtract the result from 1000. Remember to give units with your answer.

Had a look ☐ Nearly there ☐ Nailed it! ☐

# Multiplying and dividing

You need to be able to multiply and divide numbers without a calculator.

For a reminder about multiplying and dividing by 10, 100 and 1000 have a look at page 61.

## Mental methods

Try these methods for multiplying and dividing quickly in your head.

$37 \times 8$

$30 \times 8 = 240$

$7 \times 8 = 56$

$37 \times 8 = 296$

Split 37 into 30 and 7. Then multiply each by 8. Add the answers to get the total.

$54 \div 6$

$6 \times \square = 54$

The answer is 9.

Try to find a multiplication fact using 6 with 54 as the answer.

## Worked example

Target grade 1

Work out

(a) $49 \times 3$ **(2 marks)**

$$\begin{array}{r} 49 \\ \times\ 3 \\ \hline 147 \\ \hline {\scriptstyle 2} \end{array}$$

(b) $36 \times 24$ **(3 marks)**

$$\begin{array}{r} 36 \\ \times\ 24 \\ \hline 144 \\ {\scriptstyle 2} \\ 720 \\ \hline 864 \end{array}$$

Always multiply from right to left.

1. $9 \times 3 = 27$. Write down 7 and carry over **2** (2 tens).
2. $4 \times 3 = 12$. Add on the carry-over. $12 + \mathbf{2} = 14$. Write down 14.

## Examiners' report

Remember that this is a **non-calculator** question. You need to show all your working.

1. Work out $36 \times 4$. (Answer = 144)
2. Work out $36 \times 20$. Write down **0** and then work out $36 \times 2$. (Answer = 72**0**)
3. Add the answers. (144 + 720 = 864)

Multiplying and dividing are **much easier** if you are confident with your **times tables** up to $10 \times 10$.

Real students have struggled with questions like this in recent exams – **be prepared!**

## Worked example

Target grade 1

Work out $288 \div 9$ **(2 marks)**

$$\begin{array}{r} 32 \\ 9\overline{)288} \\ -27 \\ \hline 18 \\ -18 \\ \hline 0 \end{array}$$

You can use long division.

1. Does 9 divide into 2? No.
2. Does 9 divide into 28? Yes. $9 \times 3 = 27$ so 9 divides into 28 three times with remainder 1.
3. Does 9 divide into 18? Yes. $9 \times 2 = 18$ so 9 divides into 18 two times with no remainder.

Using short division the calculation would look like this:

$$9\overline{)28^{1}8}\quad 32$$

## Now try this

Target grade 1

1 (a) Work out $72 \times 100$ **(1 mark)**

(b) Work out $256 \times 9$ **(1 mark)**

(c) Work out $29 \times 78$ **(2 marks)**

Worked solution video

Target grade 1

2 (a) Work out $468 \div 3$ **(2 marks)**

(b) Work out $1032 \div 8$ **(2 marks)**

Target grade 2

3 There are 18 chocolate coins in a bag.
Paula buys 6 of these bags.
Paula has 7 grandchildren. She wants to give each of her grandchildren 15 coins.
Has she bought enough coins? **(3 marks)**

You need to answer 'yes' or 'no' to the question, **and** show your working to **justify** your answer.

Had a look ☐ Nearly there ☐ Nailed it! ☐

# Decimals and place value

You can use a place value diagram to help you understand and compare decimal numbers.

Remember that decimal numbers with more digits are not necessarily bigger. Try writing extra 0s so that all the numbers have the same number of decimal places.

| Tens | Units | • | tenths | hundredths | thousandths |
|---|---|---|---|---|---|
| | 0 | • | 7 | 5 | 8 |
| | 0 | • | 7 | 6 | 0 |
| | 0 | • | 7 | 9 | 0 |
| | 0 | • | 8 | 0 | 0 |

The value of the 5 in this number is 5 hundredths.

0.76 is the same as 0.760
0.76 is bigger than 0.758
6 hundredths is bigger than 5 hundredths.

0.79 is smaller than 0.8 because the digit in the tenths place is smaller.

## Worked example

Target grade 1

Write these numbers in order, smallest first:
0.43 0.425 0.4 0.48 0.459
**(2 marks)**

~~0.43~~ ~~0.425~~ ~~0.4~~ ~~0.48~~ ~~0.459~~
0.4 0.425
0.4 0.425 0.43
0.4 0.425 0.43 0.459
0.4 0.425 0.43 0.459 0.48

All these numbers have the same tenths digit. You need to look at the hundredths digit first.
0.4 is the same as 0.40 so this is the smallest number.
0.425 has the next smallest hundredths digit so this is the next number.

**Check it!**
Cross out each number to make sure you include them all in your final answer. ✓

## Worked example

Target grade 2

Using the information that
$58 \times 71 = 4118$
write down the value of
(a) $58 \times 0.71$ **(1 mark)**
41.18
(b) $5800 \times 7.1$ **(1 mark)**
41180

(a) 71 has been divided by 100 and 58 hasn't been changed. So the answer needs to be divided by 100. $4118 \div 100 = 41.18$

(b) 58 has been multiplied by 100 and 71 has been divided by 10.

×100 → ÷10 → is the same as → ×10 →

The answer needs to be multiplied by 10:
$4118 \times 10 = 41180$

To revise multiplying and dividing by 10, 100 and 1000 see page 61.

## Now try this

Target grade 1

1 Write down the place value of the 8 in these numbers:
(a) 2.84 **(1 mark)** (b) 0.3086 **(1 mark)**

2 Write these numbers in order of size:
0.517 0.508 0.58 0.571 0.51 **(2 marks)**

You could start with the smallest number or the largest.

Target grade 2

3 Using the information that
$672 \times 13 = 8736$
write down the value of
(a) $0.672 \times 13$ **(1 mark)**
(b) $8736 \div 67.2$ **(1 mark)**

Had a look ☐ Nearly there ☐ Nailed it! ☐

# Operations on decimals

## 1 Adding and subtracting

To add or subtract decimal numbers:

1. Line up digits with the same place value.
2. Line up the decimal points.
3. Write a decimal point in your answer.

See page 4 for a reminder about adding and subtracting.

Write in 0s so that both numbers have the same number of decimal places.

**Worked example** — Target grade 1

(a) 0.75 + 1.6 **(1 mark)**

0.75
+ 1.60
2.35
1

(b) 3.5 − 0.21 **(1 mark)**

3.5⁰
4 1
− 0.21
3.29

## 2 Multiplying

To multiply decimal numbers:

1. Ignore the decimal points and just multiply the numbers.
2. Count the number of decimal places in the calculation.
3. Put this number of decimal places in the answer.

(a) You can use estimation to check that the decimal point is in the correct place.
$8.69 \times 12 \approx 9 \times 12 = 108$ $108 \approx 104$ ✓

(b) 8.5 × 0.04 has 3 decimal places in total
So 8.5 × 0.04 = 0.340 = 0.34
Write a 0 before the decimal point and simplify your answer.

**Worked example** — Target grade 1

(a) 8.69 × 12 **(2 marks)**

869
× 12
1738
1 1
+ 8690
10428
1 1
8.69 × 12 = 104.28

Target grade 2

(b) 8.5 × 0.04 **(2 marks)**

85
× 4
340
2
8.5 × 0.04 = 0.34

## 3 Dividing

To divide by a decimal number:

1. Multiply both numbers by 10, 100 or 1000 to make the second number a whole number.
2. Divide by the whole number.

Multiply 40.6 and 1.4 by 10.
If you multiply both numbers in a division by the same amount, the answer stays the same.

**Worked example** — Target grade 2

(a) 55.8 ÷ 3 **(1 mark)**

18.6
3)5⁵5.¹8

(b) 40.6 ÷ 1.4 **(2 marks)**

40.6 ÷ 1.4 = 406 ÷ 14

29
14)406
−28
126
−126
0
40.6 ÷ 1.4 = 29

## Now try this

Target grade 1

1 (a) Work out 12.5 + 7.93 **(2 marks)**
(b) Work out 8.14 + 3 + 0.772 **(2 marks)**

2 (a) Work out 16.5 − 9.72 **(2 marks)**
(b) Work out 5.76 × 34 **(2 marks)**

Target grade 2

3 (a) A kitchen stool costs £39.90.
Work out the cost of 6 kitchen stools. **(2 marks)**
(b) Tom buys 12 pencils for £11.28.
Work out the cost of 1 pencil. **(2 marks)**

Worked solution video

Make sure you line up the decimal points.

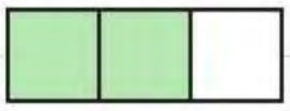
Had a look ☐ Nearly there ☐ Nailed it! ☐

# Fractions

You need to be able to work confidently with fractions, with or without a calculator.

## 1 Dividing objects

You can use fractions to divide an object into parts.



$\frac{2}{3}$ of this rectangle is shaded.

The top number is called the **numerator**.

The bottom number is called the **denominator**.

## 2 Equivalent fractions

Different fractions can describe the same amount.

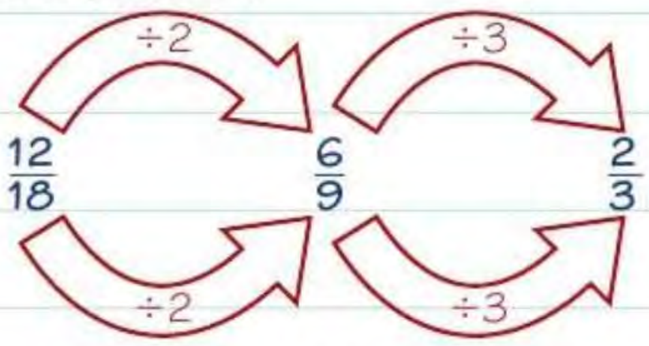
$\frac{1}{2} = \frac{2}{4}$

$\frac{1}{2}$ and $\frac{2}{4}$ are called equivalent fractions.

You can find equivalent fractions by multiplying or dividing the numerator and denominator by the same number.

## 3 Cancelling fractions

To **cancel** or **reduce** a fraction you divide the top and bottom by the same number.




When you can't cancel the fraction any further it is in its **simplest form**.

## 4 Finding a fraction of an amount

Divide the amount by the denominator

↓

Multiply by the numerator

Work out $\frac{3}{10}$ of 200 kg:

200 kg ÷ 10 = 20 kg

20 kg × 3 = 60 kg

To see how to convert between fractions and decimals look at page 56.

## Worked example

Target grade 1

(a) Write $\frac{20}{80}$ as a fraction in its simplest form.

$\frac{20}{80} = \frac{2}{8} = \frac{1}{4}$ **(1 mark)**

(b) Work out $\frac{2}{5}$ of £240.

240 ÷ 5 = 48

48 × 2 = 96

$\frac{2}{5}$ of £240 is £96 **(2 marks)**

## Examiners' report

It is **much easier** to find equivalent fractions if you are confident with your times tables. Write down all the steps when you are simplifying.

Real students have struggled with questions like this in recent exams – **be prepared!**

$\frac{2}{5}$ is less than 1 so the answer should be less than £240. ✓

## Now try this

Target grade 2

Plan your strategy before you start. Work out how much money he makes in total, compare this with £8 and then write a conclusion.

**1** David buys 80 chocolates for £20.
He sells $\frac{3}{4}$ of the chocolates for 40p each.
He then sells the remaining chocolates for 20p each.
Work out the total profit that David makes. **(4 marks)**

**2** Sandeep buys some pencils to sell at the school fete.
He buys 40 pencils for £8.
He sells a quarter of the pencils for 25p each and sells half of the pencils for 30p each.
The remaining pencils are broken and are thrown away.
Does Sandeep make a profit or loss?
You must show your working. **(4 marks)**

Had a look ☐ Nearly there ☐ Nailed it! ☐

# Operations on fractions

Make sure you can add, subtract, multiply and divide fractions **without** a calculator.

## 1 Adding or subtracting

Write both fractions as equivalent fractions with the same denominator

↓

Add or subtract the numerators

↓

Do not change the denominator

18 is the lowest common multiple (LCM) of 9 and 6. This is the easiest common denominator to use.

For a reminder about LCMs see page 12.

**Worked example** Target grade 2

Work out

(a) $\frac{1}{5} + \frac{3}{10}$ **(2 marks)**

$= \frac{2}{10} + \frac{3}{10}$

$= \frac{5}{10} = \frac{1}{2}$

(b) $\frac{8}{9} - \frac{1}{6}$ **(2 marks)**

$= \frac{16}{18} - \frac{3}{18}$

$= \frac{13}{18}$

## 2 Multiplying

Write any whole numbers on their own as fractions with denominator 1

↓

Multiply the numerators and multiply the denominators

**Worked example** Target grade 2

Work out

(a) $\frac{2}{3} \times \frac{7}{10}$ **(2 marks)**

$= \frac{2 \times 7}{3 \times 10}$

$= \frac{14}{30} = \frac{7}{15}$

(b) $3 \times \frac{2}{11}$ **(2 marks)**

$= \frac{3}{1} \times \frac{2}{11}$

$= \frac{6}{11}$

## 3 Dividing

Write any whole numbers on their own as fractions with denominator 1

↓

Turn the second fraction 'upside down'

↓

Change ÷ to ×

↓

Multiply the numerators and multiply the denominators

**Worked example** Target grade 2

Work out

(a) $\frac{2}{5} \div \frac{3}{4}$ **(2 marks)**

$= \frac{2}{5} \times \frac{4}{3}$

$= \frac{8}{15}$

Change $\frac{3}{4}$ into $\frac{4}{3}$ and change ÷ to ×.

(b) $6 \div \frac{2}{3}$ **(2 marks)**

$= \frac{6}{1} \div \frac{2}{3}$

$= \frac{6}{1} \times \frac{3}{2}$

$= \frac{18}{2}$

$= 9$

### Watch out!

1. You do not have to cancel your final answer unless the question asks you to 'give your answer in its simplest form'.
2. You can compare and order fractions by using equivalent fractions with the same denominator.

See page 13 for a reminder about equivalent fractions and simplest form.

**Now try this** Target grade 2

Worked solution video

1 Work out

(a) $\frac{5}{9} + \frac{1}{3}$ **(2 marks)**

(b) $\frac{3}{10} \div \frac{8}{15}$ **(2 marks)**

2 Work out

(a) $\frac{7}{8} - \frac{1}{2}$ **(2 marks)** (b) $\frac{8}{11} - \frac{3}{5}$ **(2 marks)**

3 Work out

(a) $\frac{5}{9} \times \frac{3}{10}$ **(2 marks)** (b) $\frac{8}{15} \div \frac{4}{7}$ **(3 marks)**

Had a look ☐ Nearly there ☐ Nailed it! ☐

Tricky Topic

# Mixed numbers

**Mixed numbers** have a whole number part and a fraction part.

$3\frac{1}{4}$ This mixed number is the same as $3 + \frac{1}{4}$

**Improper fractions** have a numerator larger than their denominator.

$\frac{5}{2}$, $\frac{21}{5}$ and $\frac{4}{3}$ are all improper fractions.

## Converting between mixed numbers and improper fractions

To convert a mixed number into an improper fraction you...

Multiply this... $3\frac{1}{4} = \frac{3 \times 4 + 1}{4} = \frac{13}{4}$ ...add it to this. Keep the same denominator.

... by this... $3 \times 4 = 12$

$12 + 1 = 13$

To convert an improper fraction into a mixed number you...

Divide this... $\frac{23}{5} = 23 \div 5 = 4\frac{3}{5}$ Write the remainder as the numerator.

... by this.

Keep the same denominator.

**Golden rule**

You need to write mixed numbers as improper fractions before you do any calculations.

### Worked example

Target grade 4

Work out $4\frac{1}{2} \times 3$ **(2 marks)**

$4\frac{1}{2} = \frac{4 \times 2 + 1}{2} = \frac{9}{2}$

$= \frac{9}{2} \times \frac{3}{1}$

$= \frac{27}{2}$

$= 13\frac{1}{2}$

### Worked example

Target grade 4

Work out $3\frac{2}{5} - 1\frac{1}{2}$ **(3 marks)**

$= \frac{17}{5} - \frac{3}{2}$

$= \frac{34}{10} - \frac{15}{10} = \frac{19}{10}$

$= 1\frac{9}{10}$

### Worked example

Target grade 4

Kumar has $2\frac{1}{2}$ pizzas. He wants to share them equally between 3 people.
What fraction of a pizza does each person receive? **(2 marks)**

$2\frac{1}{2} \div 3 = \frac{5}{2} \div \frac{3}{1}$

$= \frac{5}{2} \times \frac{1}{3}$

$= \frac{5}{6}$

Each person receives $\frac{5}{6}$ of a pizza.

### Examiners' report

Working with mixed numbers in word problems is tricky. Here are some helpful tips:

- Convert mixed numbers to improper fractions before calculating.
- If you are sharing then divide.
- Use common sense to check your answers. In this question, Kumar has less than 3 whole pizzas, so each person will get less than 1 whole pizza. You can use this fact to check your answer.

Real students have struggled with questions like this in recent exams – **be prepared!**

### Now try this

Target grade 4

1 Work out
(a) $3\frac{1}{3} \times 1\frac{3}{4}$ **(3 marks)**
(b) $4\frac{1}{5} \div 1\frac{7}{8}$ **(3 marks)**

Write both numbers as improper fractions before you do the calculation. Remember you can't use a calculator for these questions.

2 A cup holds $\frac{1}{3}$ litre of water.
How many **full** cups can be filled from a $2\frac{1}{2}$ litre jug of water? **(3 marks)**