Functional Skills
Maths

Level 2

Understand and use equivalences between fractions, decimals and percentages

v1.0

Functional Skills Maths:
Level 2

Skill Standard:
4

Coverage and Range:

Understand and use equivalencies between fractions, decimals and percentages.

- Understand that fractions, decimals and percentages are different ways of expressing the same thing.
- Use fractions, decimals and percentages to order and compare amounts or quantities and to solve practical problems. For example, what decimal must I multiply by to find the cost after a reduction of 25%? Choose to use a fraction, decimal or percentage to work out VAT.
- Know how to change fractions to equivalent fractions with a common denominator.
- Identify equivalences between fractions, decimals and percentages.
- Evaluate one number as a fraction or percentage of another.
- Understand that quantities must be in the same units to evaluate and compare.

  Add and subtract fractions; add, subtract, multiply and divide decimals and percentages.
- Add and subtract using halves, thirds, quarters, fifths and tenths.
- Add, subtract, multiply and divide decimals up to three places and check answers in the context of measurements and money, for example a bill for £32.67 shared equally among three people.[1]

1 QCA Functional Skills guidance: amplification of the standards June 2008 QCA/08/3700

Explain the Skill

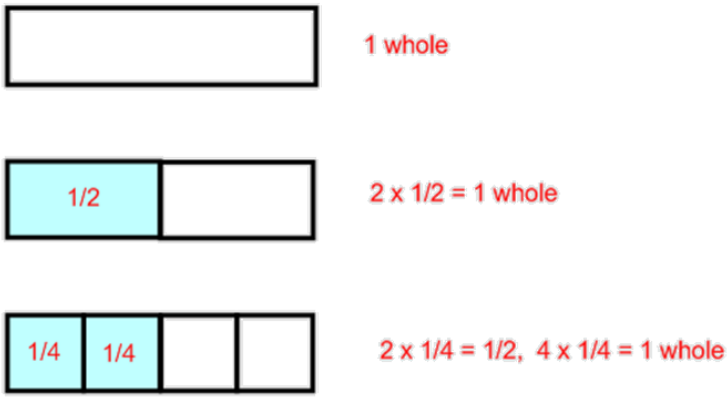
Equivalent Fractions and Simplest Form

A fraction is part of a whole. The fraction $\frac{3}{5}$ means 3 parts out of 5.

$\frac{3}{5}$ ← The top number is called the numerator

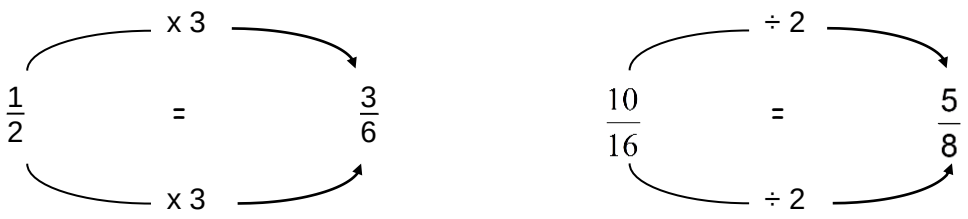
$\frac{3}{5}$ ← The bottom number is called the denominator

An equivalent fraction is a fraction that can be written in different ways but have the same value.



You can see from the diagram that $\frac{1}{2} = \frac{2}{4}$

You can produce equivalent fractions by multiplying, or dividing both the numerator and the denominator by the same number.



To **simplify** a fraction you **divide** the numerator and denominator by a common factor (a number that divides exactly into both the numerator and denominator).

A fraction is in its **simplest form** when the numerator and denominator cannot **both** be further divided by any number other than 1.

Practise the Skill

1) Complete the following equivalent fractions.

$\frac{5}{12} = \frac{\square}{36}$ $\qquad$ $\frac{3}{14} = \frac{9}{\square}$

$\frac{8}{24} = \frac{\square}{3}$ $\qquad$ $\frac{16}{40} = \frac{\square}{5}$

$\frac{14}{21} = \frac{\square}{3}$ $\qquad$ $\frac{3}{5} = \frac{\square}{50}$

2) Write the following fractions in their simplest form.

$\frac{15}{20} = \frac{\square}{\square}$ $\qquad$ $\frac{11}{66} = \frac{\square}{\square}$

$\frac{6}{24} = \frac{\square}{\square}$ $\qquad$ $\frac{28}{32} = \frac{\square}{\square}$

$\frac{9}{27} = \frac{\square}{\square}$ $\qquad$ $\frac{48}{64} = \frac{\square}{\square}$

Explain the Skill

Finding a Fraction of an Amount

To find a fraction of a quantity you divide the quantity by the denominator and then multiply by the numerator.

What is $\frac{1}{5}$ of 120?

To find $\frac{1}{5}$ you divide by 5 120 ÷ 5 = 24

(when the numerator is 1 there is no need to multiply)

What is $\frac{3}{4}$ of £360?

To find ¾ of £360 you divide by 4 and multiply by 3.

£360 ÷ 4 = £90

£90 x 3 = £270

Practise the Skill

1) Calculate the fractions of these quantities.

$\frac{1}{8}$ of 72 = _____ $\frac{1}{6}$ of 1272 = _____

$\frac{1}{7}$ of £1050 = £_____ $\frac{2}{5}$ of 275 = _____

$\frac{5}{9}$ of 135 = _____ $\frac{11}{12}$ of £576 = £ _____

2) A builder laid $\frac{2}{3}$ of the bricks he had delivered. If there were 456 bricks how many bricks does he still have to lay?

_____

3) Riona has £70 in her purse. She spent $\frac{3}{5}$ of her money on clothes.
How much did she spend on clothes?

£_____

4) Of the 15 449 000 million people who are eligible to vote, only $\frac{4}{7}$ actually voted.
How many people voted?

_____

5) Giles and Heidi raise £1,824 for charity. Giles gave $\frac{3}{8}$ of the money to his preferred charity and Heidi gave the remainder to her preferred charity.
How much did Heidi give to her charity?

£ _____

Explain the Skill

Evaluate One Number as a Fraction of Another

To write one number as a fraction of another you have to first decide which quantity represents the **whole** amount – this is your **denominator**.

The **numerator** is the quantity which represents **part** of the amount.

Write 5 as a fraction of 24.

24 is the **whole** amount so this is the denominator

5 is **part** of the amount so this is the numerator = $\frac{5}{24}$

Both quantities must be in the same units and you should always give the fraction in its simplest form.

What fraction is 40 minutes of 1 hour?

40 minutes of 1 hour = $\frac{40}{60} = \frac{2}{3}$

The units must be the same
so 1 hour becomes 60 minutes

What fraction of 1 km is 800 metres?

The units must be the same
so 1 km becomes 1000 g

$\frac{800}{1000} = \frac{4}{5}$

Practise the Skill

1) In a class of 40, 28 passed their maths test.

What fraction of the class passed?
Give your answer as a fraction in its lowest terms.

_____

2) Express 30p as a fraction of £3.00.

Give your answer as a fraction in its lowest terms.

_____

3) On a flight of 480 passengers, 160 were female.

What fraction of the passengers were male?
Give your answer as a fraction in its lowest terms.

_____

4) In a college of 1250 students, 350 students owned their own car.

What fraction of the students owned their car?
Give your answer as a fraction in its lowest terms.

_____

5) Express 55 cm as a fraction of 1 m.

Give your answer as a fraction in its lowest terms.

_____

6) Express 80 g as a fraction of 1 kg.

Give your answer as a fraction in its lowest terms.

_____

Explain the Skill

Adding and Subtracting Fractions

Before adding or subtracting fractions you need to find the lowest common denominator, if the denominators (bottom number) are different.

Example 1 - Same Denominator

$\frac{3}{6} + \frac{1}{6} = \frac{4}{6}$ Add the numerators only.

$\frac{3}{8} - \frac{2}{8} = \frac{1}{8}$ Subtract the denominators only.

Example 2 - Different Denominator

$\frac{5}{8} + \frac{1}{2} =$ The lowest common denominator for 8 and 2, is 8.

$\frac{5}{8} + \frac{1}{2} =$ becomes $\frac{5}{8} + \frac{4}{8} = \frac{9}{8} = 1\frac{1}{8}$

When adding mixed fractions, add the whole numbers, then add the fractions.

Subtraction of fractions can sometimes be a little more complicated. You may need to convert to an improper fraction to subtract the fractional parts.

Example 1 - Addition of Mixed Fractions

$2\frac{1}{4} + 3\frac{1}{8}$ becomes $2\frac{2}{8} + 3\frac{1}{8}$ = $5\frac{3}{8}$

Example 2 - Subtraction of Mixed Fractions

For subtraction, make sure you have a common denominator, then subtract the whole numbers and then the fractions.

$3\frac{1}{4} - 2\frac{1}{8}$ becomes $3\frac{2}{8} - 2\frac{1}{8}$ = $1\frac{1}{8}$

Example 3 - Subtraction - Convert 1 whole number

$4\frac{1}{4} - 3\frac{1}{2}$ becomes $4\frac{1}{4} - 3\frac{2}{4}$

As you cannot subtract $\frac{2}{4}$ from $\frac{1}{4}$, you need to convert 1 from the first number and convert it to an improper fraction.

$$\left(3\frac{4}{4}+\frac{1}{4}\right)$$

$4\frac{1}{4} - 3\frac{2}{4}$ becomes ~~$4\frac{1}{4}$~~ $- 3\frac{2}{4}$

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

Example 4 - Subtraction - Converting the whole fraction

$4\frac{1}{4} - 3\frac{1}{2}$ becomes $4\frac{1}{4} - 3\frac{2}{4}$

$4\frac{1}{4} - 3\frac{2}{4}$ becomes $\frac{17}{4} - \frac{14}{4}$ = $\frac{3}{4}$

Practise the Skill

1) Work out the following and answer in the form of a fraction.

$\frac{3}{4} + \frac{1}{8} =$ ___

$2\frac{1}{2} + \frac{3}{5} =$ ___

$4\frac{3}{8} + 1\frac{2}{3} =$ ___

2) Work out the following and answer in the form of a fraction.

$3\frac{1}{2} - \frac{5}{6} =$ _____

$4\frac{3}{4} - 1\frac{3}{8} =$ _____

$3\frac{3}{5} - 1\frac{9}{10} =$ _____

3) Rob is travelling to Germany.

It takes him $1\frac{1}{2}$ hours to drive to the airport and he then waits $2\frac{3}{4}$ hours before boarding his flight. The flight takes $2\frac{1}{3}$ hours.

How long has Rob spent travelling to Germany?
Give your answer as a fraction in its lowest terms.

_____

4) It's Lauren's birthday and she has been given some money.

She spends $\frac{1}{8}$ on a meal, $\frac{2}{3}$ of the money on clothes.

What fraction of the money is left?
Give your answer as a fraction in its lowest terms.

_____

5) In a restaurant $\frac{1}{5}$ of the customers are vegetarian and $\frac{3}{4}$ eat meat. The remainder of the customers are dairy intolerant.

What fraction of the customers are dairy intolerant?
Give your answer as a fraction in its lowest terms.

_____

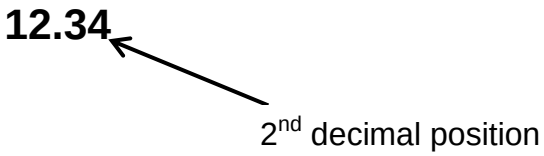
Explain the Skill

Rounding Decimals

First you need to know if you are rounding to 1, 2 or 3 decimal places.

To round a number to 1 decimal place you need to look at the digit in the 2nd decimal position. If this digit is less than 5 then the digit in the 1st decimal position stays the same. If it is 5, 6, 7, 8, or 9 then you round the digit in the 1st decimal place **up.**

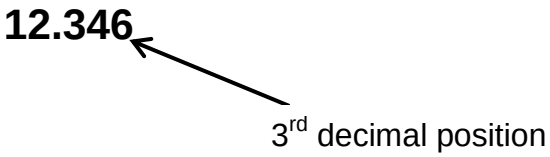
Round 12.34 to 1 decimal place.



The digit in the 2nd decimal position is 4, so the digit in the 1st decimal place doesn't change. 12.34 rounded to 1 decimal place is 12.3

To round a number to 2 decimal places, you look at digit in the 3rd decimal position. If this digit is less than 5 then the digit in the 2nd decimal position stays the same.
If it is 5, 6, 7, 8, or 9 then you round the digit in the 2nd decimal position **up.**

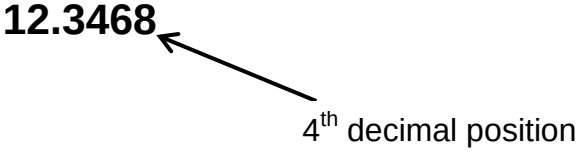
Round 12.346 to 2 decimal places.



The digit in the 3rd decimal position is 6, so the digit in the 2nd position is rounded up. 12.346 rounded to 2 decimal places is 12.35

To round a number to 3 decimal places, you look at digit in the 4th decimal position. If this digit is less than 5 then the digit in the 3rd decimal position stays the same.
If it is 5, 6, 7, 8, or 9 then you round the digit in the 3rd decimal position **up.**

Round 12.3468 to 3 decimal places.



The digit in the 4th decimal position is 8, so the digit in the 3rd decimal position is rounded up. 12.3468 rounded to 3 decimal places is 12.347

Practise the Skill

1) Round the following numbers to 1 decimal place.

21.65 = _____ 4.27 = _____

109.883 = _____ 8.6749 = _____

2) Round the following numbers to 2 decimal places.

34.356 = _____ 2.874 = _____

124.459 = _____ 15.9857 = _____

3) Round the following numbers to 3 decimal places.

3.9856 = _____ 69.1287 = _____

1.0408 = _____ 456.9518 = _____

4) A model airplane has tyres with a diameter of 1.4791 cm.
What is the size of the tyres rounded to 1 decimal place?

_____ cm

5) A meal for 4 people costs £123.39. The amount when divided by 4 is 30.8475
How much does each person need to pay?

£ _____

6) A plumber measures lengths of pipe totaling 7.8659 m.
How much pipe has he used rounded 3 decimal places?

_____ m

Explain the Skill

Add, Subtract, Multiply and Divide Decimals

To add or subtract decimals, write down the numbers in columns with the decimal points lined up then add zeros so that the numbers are all the same length. Do the calculation as you would any ordinary addition and subtraction, remembering to put the decimal point in line in the answer.

Examples

100.1 + 40.92 + 6.125

100.1**00**
40.92**0**
+ 6.125
147.145

120.007 – 93.09

120.007
- 93.09**0**
26.917

1642.7 – 185.019

1642.7**00**
- 185.019
1457.681

To multiply decimals, you simply multiply as if the numbers were whole numbers (ignoring the decimal points). Use your preferred method to multiply the numbers and then put the decimal point in at the end of the calculation. The answer has the same number of decimal places as the 2 original numbers combined.

It is always useful to check the result by working out what you would expect the answer to be close to, i.e. do an approximate calculation using whole numbers to make sure that you are likely to be correct.

Example 1 9.453 × 7

$$\begin{array}{r} 9453 \\ \times \quad 7 \\ \hline 66171 \end{array}$$

There are 3 decimal places in the original sum, so the answer is **66.171**

Check: 10 x 7 = 70. 70 is close to the answer of 66, so it is likely to be the correct answer.

Example 2 6.35 × 8.5

Multiply as if using whole numbers using your preferred method.

$$\begin{array}{r} 635 \\ \times \ 85 \\ \hline 50800 \\ 3175 \\ \hline 53975 \end{array}$$

There are three decimal places in total in the original sum: 6.**35** × 8.**5**

so the answer is **5 3 . 9 7 5**

Check: 6 x 9 = 54. 54 is close to the answer of 53, so it is likely to be the correct answer.

To divide decimals, the number you are dividing by needs to be a whole number. If it isn't a whole number then you must multiply it by 10, 100 or 1000 to make it a whole number. You must also then multiply the number you are dividing into by the same amount.

Example 1

14.021 ÷ 7

$$\begin{array}{r|l} & \mathbf{2.003} \\ \hline \mathbf{7} & \mathbf{14.021} \end{array}$$

Example 2

3.02 ÷ 0.2

First multiply 0.2 by 10 to make it a whole number, then multiply 3.02 by 10.
So 3.02 ÷ 0.2 becomes 30.2 ÷ 2

$$\begin{array}{r|l} & \mathbf{15.1} \\ \hline \mathbf{2} & \mathbf{30.2} \end{array}$$

Example 3

1.7283 ÷ 0.003

To make 0.003 a whole number, you must multiply by 1000.
Then you must then multiply 1.7283 by 1000.
So 1.7283 ÷ 0.003 becomes 1728.3 ÷ 3

$$\begin{array}{r|l} & \mathbf{5\ 7\ 6.1} \\ \hline \mathbf{3} & \mathbf{17^{2}2^{1}8.3} \end{array}$$

Practise the Skill

1) Calculate

20.72 + 2.027 = _____

101.01 + 10.11 + 1.001 = _____

2) Work out

3.8 – 1.09 = _____

21.7 – 4.106 = _____

3) Calculate

20.1 x 0.23 = _____

0.067 x 2.5 = _____

4) Work out

6.5 ÷ 0.2 = _____

0.475 ÷ 0.25 = _____

5) Gemma is buying material for her bridesmaids' dresses. She buys the following lengths of material:

1.5 m 4.025 m 2.25 m.

How much material did she buy altogether?

_____ m

6) The material for the different dresses cost £7.99 per metre, £9.77 per metre and £9.07 per metre.

What was the difference in price between the most expensive and the cheapest material?

£ _____

7) Five friends go out for a meal. The meal costs £89.24 and they agree to split the bill evenly.

How much does each person pay?

£ _____

8) Riona is going to Ibiza and is going to change £250 into euros.

The exchange rate is £1 = 1.25 euros.

How many euros will Riona get?

€ _____

9) A plumber charges £35 call out fee and then £15.75 per hour thereafter.

What is the total cost if the plumber is called out and works for 4 hours?

£ _____

10) Harry earns £12.20 per hour Monday to Friday. If he works on a Sunday he earns 1.75 times the hourly rate.

How much will he earn if works for 8 hours on a Sunday?

£ _____

Explain the Skill

Percentages

Percentages are another way of representing decimals and fractions.
The word 'percent' means 'out of 100' so 50% means $\frac{50}{100}$ which cancels down to $\frac{1}{2}$

To find a percentage of an amount write the percentage as a fraction and then multiply it by the amount.

Find 20% of 180.

First write 20% as a fraction: $\frac{20}{100} = \frac{1}{5}$

Now multiply by the amount:

$\frac{1}{5}$ x 180 = 36

Here are some useful shortcuts to calculating percentages:

To find 1% of an amount divide the amount by 100.

To find 50%, find half of the amount.

To find 25%, find half and half again of the amount.

To find 75%, find half and half again and add the amounts together.

To find 10%, divide the amount by 10.

To find 5%, find 10% of the amount and halve it.

What is 25% of £220?

To find 25%, find half and half again of the amount.

Half of £220 is £220 ÷ 2 = £110
Half of £110 is £110 ÷ 2 = £55

So 25% of £220 = £55

Express 50 as a percentage of 200.

You can solve this by writing it as a fraction and then multiplying it by 100. The quantities must be in the same units.

So $\frac{50}{200} = \frac{1}{4}$

$\frac{1}{4} \times 100 = \frac{100}{4} = 25\%$

Express 75p as a percentage of £15.

£15 = 1500p

$\frac{75}{1500}$ x 100 = 5%

Practise the Skill

1) What is 90% of 450?

_____

2) Find 5% of 160

_____

3) What is 17.5% of £120?

£ _____

4) Express 18 as a percentage of 60

_____ %

5) Express 96 mm as a percentage of 48 cm.

_____ %

6) Express 16p as a percentage of £8

_____ %

7) A builder was paid £550 for the work he did. He spent 35% of the money on materials.

How much did the materials cost?

£ _____

8) Jordan has £1850 outstanding on his credit card balance. He will have to pay 16.5% interest on the full amount.

How much interest will he have to pay?

£ _____

9) In a class of 36 students, 27 download rap music onto their mobile phones.

What percentage of the students listen to rap music?

_____ %

10) In a school, 49 out of 70 teachers are female.

What percentage of the teachers are female?

_____ %

11) A packet of crisps weighs 25 grams and contains 8 grams fat. What percentage of the weight is fat?

_____ %

Explain the Skill

Percentage Increase and Decrease

To calculate a percentage increase first work out the percentage amount and then **add** it to the original figure to find the new amount. Alternatively you can **add** the percentage **increase** to the original percentage (100%) and then do the calculation.

To calculate a percentage decrease first work out the percentage amount and then **subtract** it from the original figure to find the new amount. Alternatively you can **subtract** the percentage **decrease** from the original percentage (100%) and then do the calculation.

Example

A meal costs £74 not including a 10% service charge.
How much will the meal cost in total?

Original price = £74 Increase = 10%

To find 10% of £74, divide by 10. $\frac{74}{10}$ = £7.40

Add increase to original price £74 + £7.40 = £81.40

You will pay £81.40

Another way of calculating this is to add the percentages together first.

Original price (100%) + 10% = 110%

£74 x 110% = 74 x $\frac{110}{100}$ = 81.4 = £81.40

A house had previously been valued at £180 000. However house prices had decreased by 5%. What would be the value of the house now?

Original price = £180 000 Decrease = 5%

To find 5% of £180 000, first find 10% then half it. $\frac{180000}{10}$ x $\frac{1}{2}$ = £9000

Subtract decrease from original price £180 000 - £9000 = £171 000

The house would be worth £171 000.

Another way of calculating this is to subtract the decrease percentage first.

Original price (100%) - 5% = 95%

£180 000 x 95% = 180 000 x $\frac{95}{100}$ = £171 000

Percentage Change

You use percentage change when you are comparing an old value to a new value.

To find a percentage change you will need to use a formula.

$$\text{Percent change} = \frac{\text{new value} - \text{original value}}{\text{original value}} \times 100\%$$

Example

Last week there were 400 customers in the shop. This week there were 480 customers. What percentage increase was this?

$$\frac{480 - 400}{400} \times 100\% = 0.2 \times 100\% = 20\%$$

Practise the Skill

1) Increase 350 by 30%

_____

2) Decrease 240 by 5%

_____

3) Increase 48 by 12%

_____

4) Decrease 720 by 9%

_____

5) A pair of jeans costs £35.
There is a discount of 15% on everything in the shop.
How much do the jeans cost after the discount?

£ _____

6) Jim is buying a new car.
It costs £8 750 before VAT is added.
If VAT is charged at 20% what is the cost of the car including VAT?

£ _____

7) Bill has £3700 in a savings account.
The interest rate is 3.5% per year.
How much interest will Bill receive in one year?

£ _____

8) A television is reduced in a sale by 20%.
What is the sale price of the television that cost £400 before the sale?

£ _____

9) The population of a village is 5936. 10 years ago the population was 5600.
What percentage increase is this?

_____ %

10) Sarah bought a car for £2 300. She later sold the car for £1 840.
What was her percentage loss?

_____ %

Explain the Skill

Converting between Fractions, Decimals and Percentages

Fractions, percentages and decimals are all parts of something.

3 Different Ways to Write the Same Thing.

numerator → 1
denominator → 2

$\frac{1}{2}$ = **50%** = **0.5**

(50% ↑ percentage; 0.5 ↑ decimal)

$\frac{1}{4}$	=	25%	=	0.25
$\frac{3}{4}$	=	75%	=	0.75

Sometimes we need to convert between each one.

To convert a **percentage** to a **decimal**, divide by 100.

25%	=	25	÷	100	=	0.25
50%	=	50	÷	100	=	0.50
75%	=	75	÷	100	=	0.75

To convert a **decimal** to a **percentage**, multiply the decimal by 100.

0.15	=	0.15	×	100	=	15%
0.50	=	0.50	×	100	=	50%
0.75	=	0.75	×	100	=	75%

To convert a **percentage** to a **fraction**, put the number over 100 and simplify if possible.

$50\% = \frac{50}{100} = \frac{1}{2}$

$25\% = \frac{25}{100} = \frac{1}{4}$

$75\% = \frac{75}{100} = \frac{3}{4}$

To convert a **fraction** to a **percentage**, divide the numerator by the denominator, then multiply by 100.

$\frac{1}{2}$ x 100%

$\frac{1}{2}$ = 1 ÷ 2 = 0.5 0.5 x 100 = 50%

$\frac{1}{5}$ x 100%

$\frac{1}{5}$ = 1 ÷ 5 = 0.2 0.2 x 100 = 20%

To convert a **fraction** to a **decimal**, divide the numerator by the denominator.

$\frac{1}{5}$ = 1 ÷ 5 = 0.2

$\frac{1}{10}$ = 1 ÷ 10 = 0.1

$\frac{3}{4}$ = 3 ÷ 4 = 0.75

To convert a **decimal** to a **fraction**, write the decimal as a fraction in tenths, hundredths or thousandths. Think about the number value and simplify if possible.

0.3	=	3 tenths	=	$\frac{3}{10}$		
0.5	=	5 tenths	=	$\frac{5}{10}$	=	$\frac{1}{2}$
0.25	=	25 hundredths	=	$\frac{25}{100}$	=	$\frac{1}{4}$
0.125	=	125 thousandths	=	$\frac{125}{1000}$	=	$\frac{1}{8}$

Practise the Skill

1) Convert $\frac{7}{8}$ to a decimal.

_____

2) Convert 0.825 to a fraction.

_____

3) Convert 7.5% to a decimal.

_____

4) Convert 0.578 to a percentage.

_____ %

5) Convert 64% to a fraction.

_____

6) Convert $\frac{3}{20}$ to a percentage.

_____ %

7) What decimal must I multiply by to find the cost after a reduction of 12.5%?

_____

8) $\frac{3}{8}$ of the magazines sold at a newsagents were wedding magazines.

What is this as a percentage?

_____ %

9) 16% of population in UK has a health club membership.

What is this as a fraction?

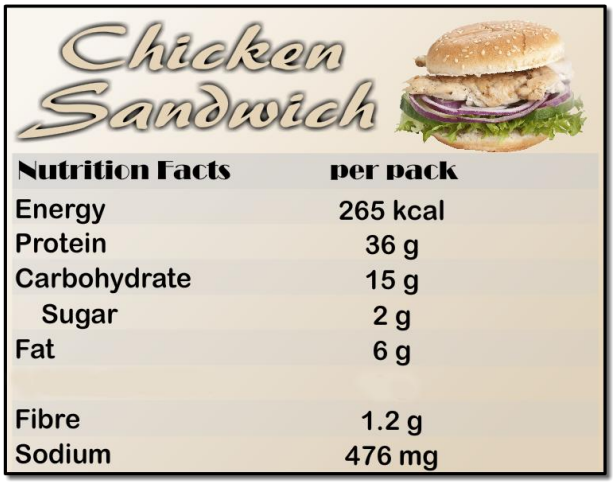
_____

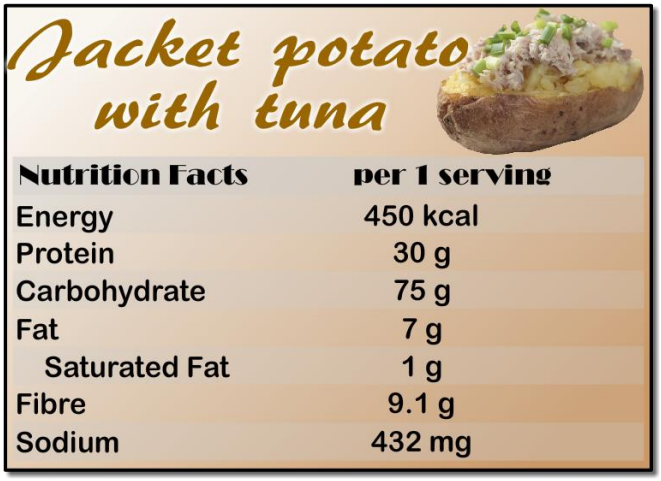
Apply the Skill

1) Oliver is the manager of a healthy eating bistro.

Ethan is following a healthy diet plan and is allowed 3000 calories and 30 grams of fat a day.

He is trying to decide what to have for his lunch.





a) If he chooses a chicken sandwich what percentage of his daily allowance of fat will that be?

_____ %

b) What fraction of his daily allowance of calories is a jacket potato with tuna?

Give your answer as a fraction in its lowest terms.

_____

2) Oliver caters for a variety of diets.

At the start of the day Oliver has the following items for sale:

60	Sandwiches	@	£2.40
40	Baguettes	@	£2.70
25	Jacket potatoes	@	£3.25

He sells all the jacket potatoes, $\frac{2}{3}$ of the sandwiches and $\frac{3}{4}$ of the baguettes at full price.

He then reduces the prices of the remaining sandwiches and baguettes by half.

a) What is the total cost of the sales that day?

£ _____

The cost of bread has increased so Oliver has to increase the price of a sandwich from £2.40 to £2.50.

b) What percentage increase is this?

_____ %

3) At the weekends Oliver runs themed events.
It costs £75.80 for printing the tickets and £134.60 for advertisements.
VAT at 20% must be added to these costs.

What is the total cost including VAT?

£ _____

4) He can cater for 40 people at each event. The total cost of all the expenses per event is £680.

If Oliver wants to make £300 profit, how much does he need to charge per ticket?

£ _____

5) Jean is a waitress at the bistro. Last weekend she worked $7\frac{1}{2}$ hours on Friday, $9\frac{3}{4}$ hours on Saturday and $6\frac{1}{4}$ hours on Sunday. She earns £8.60 per hour.

How much did she earn in total?

£ _____

6) 4 friends go to one of the themed events and share the travel costs.

The distance to and from the bistro is 27 miles.
It costs 23p per mile
Parking costs £5.90

They split the costs evenly.

How much does each one pay?

£ _____

7) Last month there were 3400 customers. This month there were 3194.

What percentage decrease is this?

Give your answer to the nearest whole number.

_____ %