

Mathematics

Topic 2: Fractions and Decimal Numbers

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- Underline the correct word to make sentences about **fractions and decimals**.
 - Compare** / **Apply** / **Move** the rule to solve the mathematical problem.
 - Separate** / **Trade** / **Continue** the sequence to show the other ways of making 1.
 - Water **covers** / **receives** / **weighs** just over seven tenths of the Earth's surface.
 - Join the two dots to **increase** / **estimate** / **create** a line.
 - Fold** / **Invert** / **Balance** the paper in half.
 - When you **halve** / **invert** / **convert** something you divide it by two.
 - Use the numbers 3, 5 and 2 to **insert** / **illustrate** / **borrow** the properties of addition and multiplication.
 - The dot on top of the recurring digit **notices** / **simplifies** / **indicates** repetition to infinity.
- Draw a line between the beginnings and endings to make sentences about the **metric system**.

There are 100
There are 10
A decimal contains parts that are
A decimetre is a unit of length
The metre is the basic unit of length
There are 1,000
The gram is a unit
The dot above a number indicates

decilitres in one litre.
smaller than a whole number.
equal to 0.1 metre.
for measuring weight.
in the metric system.
millimetres in a metre.
repetition to infinity.
centimetres in one metre.

- Unscramble the letters to make words that fill the gaps in the sentences on **fractions and decimals**.
 - Look how decimal fractions **rapmeco** _____ with a whole number.
 - restin** _____ the decimal point in the quotient exactly above the decimal point in the dividend.
 - When you **revint** _____ the fraction you turn it upside down.
 - vome** _____ the digits in both the divisor and the dividend up one place to the left.

- e) **tinceo** _____ the two decimal places in the multiplicand.
f) If 30 eggs **gewih** _____ 1,800g, how heavy would 12 eggs be?

4. Find the words about **fractions and decimals** in the word search.

<p>S X R W P O H S E H C B N E E D</p> <p>M H S R E R O E T E P I L V E E</p> <p>I C E E B B F P R S S A I E U U</p> <p>O E H B A O O A N I B E C J C X</p> <p>L R J W Y T H R T Y C S O H D S</p> <p>H M O F E N T D R E E T N B Q D</p> <p>U A R Q U A T U R O N I V A R F</p> <p>E I G C O M I R J E W M E L O E</p> <p>C X Q C A C N S S E P A R A T E</p> <p>V C Q D H T C E I W E T T N L D</p> <p>P S C Z R N R Y M P A E R C E S</p> <p>N P M T X P E P P N C T A E L E</p> <p>T C I C E B A C L K E Z D U L A</p> <p>Z Y T R X P S E I H I F E J P G</p> <p>E F E E A N E S F F A Q C M D E</p> <p>C H D C L Y I E Y I V P P Y E R</p>	<p>represent</p> <p>separate</p> <p>simplify</p> <p>receive</p> <p>balance</p> <p>borrow</p> <p>convert</p> <p>estimate</p> <p>increase</p> <p>trade</p>
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5. Draw a line between each word about **money** and its correct definition.

Amount	Money that you get when you sell something for a price that is higher than the cost of making it or buying it.
Chart	A quantity of something
Container	The price it costs to produce something without making any profit.
Cost price	A list, drawing or graph that shows information.
Diagram	Something used for storing or keeping things in.
Profit	A drawing that explains something.

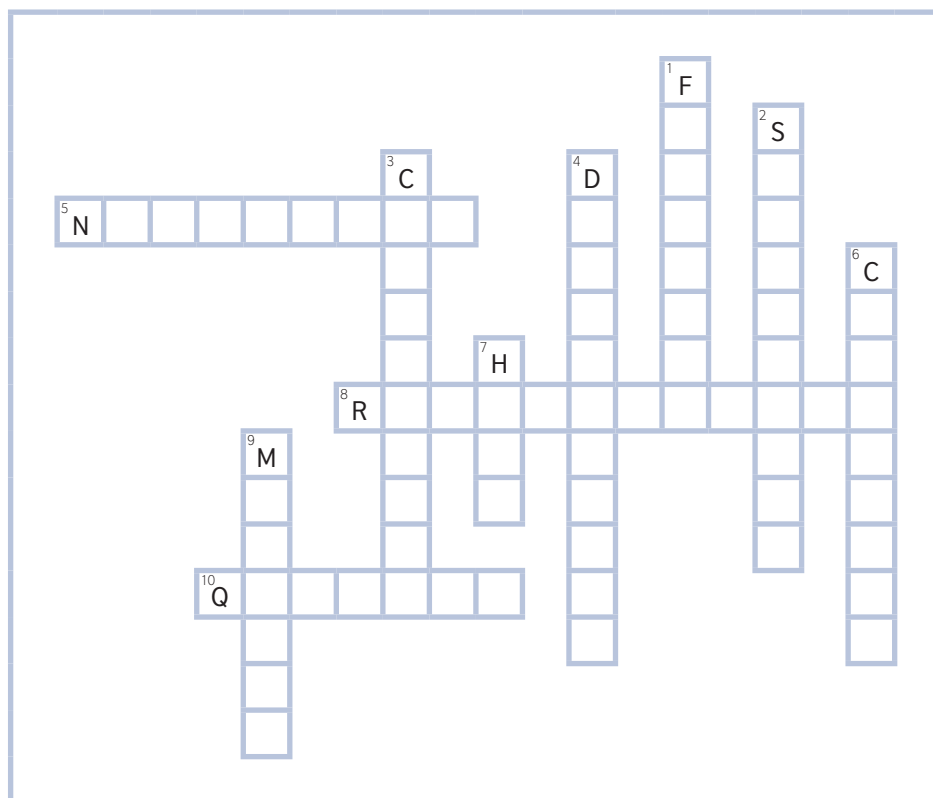
6. Complete the crossword by answering the following questions. All the correct answers are words used in mathematics. Most of them are about **fractions**.

Across:

5. The number that appears above the line in a common fraction.
8. The way in which two or more or things are connected.
10. One of four equal parts of something.

Down:

1. A small part or amount of something; a part of a whole number (for example, a half).
2. A number that is to be deducted from another number.
3. One of two angles that together form a right angle.
4. The number that is below the line in a fraction.
6. An individual quality or feature of something.
7. One of two equal parts of a number, amount, group or object.
9. The number from which the subtrahend is to be subtracted.



7. Choose the correct words from the list to fill in the gaps in the sentences about **fractions and decimals**.

equivalent	missing	metric
heavy	true	long
full	fractional	easy

a)	It was really _____ to find the solution to the problem.
b)	Some fractions and decimals are _____ or the same.
c)	_____ is an adjective that describes a small amount of something or part of a whole number.
d)	Something that is _____ contains the largest amount that will fit inside it.
e)	A _____ object or person weighs a lot.
f)	Something that is _____ measures a large distance from one end to the other.
g)	_____ is a word used to describe a system of measurements.
h)	If something is _____ there is an empty space where it should be.
i)	Something that is _____ is based on facts, is correct and is the opposite of false.

8. Put the words in the correct order to make sentences about **measurement**.

a)	the capacity	in litres.	Calculate	of the tank	
Correct sentence:					
b)	between	these mixed numbers.	to find	Use two methods	the difference
Correct sentence:					
c)	we multiply	by height.	the combined volume,	To measure	length by width
Correct sentence:					

d)	of maize	500kg.	The total weight	is	of the mixture
Correct sentence:					
e)	that you have.	The quantity	the amount of something	tells you	
Correct sentence:					
f)	the sides of	is one of	an object.	The surface	
Correct sentence:					
g)	contains.	is the amount of matter	Mass	that something	
Correct sentence:					
h)	is a long flat object	A ruler	that you use	straight lines.	for drawing
Correct sentence:					
i)	as something else.	size or value	the same	The equivalent is	
Correct sentence:					

9. Draw a line to match two words to make compound phrases to do with **decimals and fractions**.

direct
gross
recurring
simple
mixed
improper

income
digit
interest
fraction
proportion
fraction

10. Underline the word with incorrect spelling in the sentences about **size and shape**.
Write the correct spelling in the box.

a)	Trace the shaip onto the card and cut it out.	
b)	The skware is the number that is the result of multiplying one number by itself.	
c)	Cut the paper into streeps 1cm wide.	
d)	The gram is a unite for measuring weight.	
e)	A set of names, numbers or other items that are written or printed one below another is a liste.	
f)	Fold a sheet of paper into eight equal sektions.	
g)	Mathematics problems are usually solved by following a specific sekwnce of steps.	
h)	Add a rowe to the table for each object to be measured.	

Glossary

amount	/əˈmaʊnt/ noun [C] a quantity of something: <i>The amount of money should be paid within two weeks.</i>
apply	/əˈplaɪ/ (applies, applying, applied) verb [T] to use something: <i>Apply the rule to solve the maths problem.</i>
balance	/ˈbæləns/ verb [T] to create a good or correct balance between two different features or aspects, so that both are the same or are equally matched: <i>Find the unknown by balancing the equation.</i>
borrow	/ˈbɒrəʊ/ verb [I/T] to borrow money from a bank and pay it back gradually: <i>We borrowed £20,000 to start up the business.</i>
capacity	/kəˈpæsəti/ (plural capacities) noun [C/U] the most that a container, building etc can hold: <i>What is the capacity of the tank in litres?</i>
centimetre	/ˈsentɪ.mi:tə(r)/ noun [C] a unit for measuring length in the metric system: <i>There are 100 centimetres in one metre.</i> Symbol: <i>cm.</i>
chart	/tʃɑː(r)t/ noun [C] a list, drawing, or graph that shows information.
colour in	/ˈkʌlə(r)/ verb [T] to add colour to something, or to make it a different colour.
compare	/kəmˈpeə(r)/ verb [T] to consider the ways in which people or things are similar or different: <i>Look how decimal fractions compare with a whole number.</i>
complement	/ˈkɒmplɪment/ noun [plural] two angles that together form a right angle: <i>complementary angles.</i>
component	/kəmˈpəʊnənt/ noun [C] an individual quality or feature of something: <i>Numerator and denominator are components of a common fraction.</i>
container	/kənˈteɪnə(r)/ noun [C] something used for storing or keeping things in, e.g., box, bottle, or bowl.
continue	/kənˈtɪnjuː/ verb [I/T] to keep doing something, or to keep happening without stopping.
convert	/kənˈvɜː(r)t/ verb [I/T] to change from one thing to another, or to make something change in this way: <i>Convert the number from metres into centimetres.</i>
cost price	/kɒstpraɪs/ noun [U] the price it costs to produce something, without making any profit, (buying price); selling price /ˈselɪnpaɪs/ noun [U] the price something is sold at including profit.
cover	/ˈkʌvə(r)/ verb [I/T] to take up an area: <i>How much of the earth's surface is covered by water?</i>
create	/kriˈeɪt/ verb [T] to make something new exist or happen: <i>Join the two dots to create a line.</i>
decilitre	/ˈdesɪ.li:tə(r)/ noun [C] a unit for measuring an amount of liquid or gas in the metric system. There are 10 decilitres in one litre.

decimal	/ˈdesɪm(ə)/ noun [C] a number that contains a decimal point to show that it is either smaller than 1, or that it contains parts that are smaller than a whole number. 0.5, 25.75, and 0.006 are all decimals.
decimetre	/ˈdesɪmi:tə(r)/ noun [C] a unit of length equal to 0.1 metre.
decrease	/diːˈkri:s/ verb [I] to become less: <i>The number of visitors has decreased significantly.</i>
denominator	/dɪˈnɒmɪˌneɪtə(r)/ noun [C] the number that is below the line in a fraction. The number above the line is the numerator. In $\frac{3}{4}$ 4 is the denominator and 3 is the numerator.
diagram	/ˈdaɪəgræm/ noun [C] a drawing that explains something: <i>a diagram of the manufacturing process.</i>
difference	/ˈdɪfrəns/ noun [C] the amount by which one thing is different from another thing: <i>There's a difference of £500 between this car and that one!</i>
direct proportion	/dɪˈrekt prəˈpɔː(r)(ə)n/ an increase / decrease in one quantity which causes an increase / decrease in other quantity. indirect proportion /ˌɪndɪˈrektprəˈpɔː(r)(ə)n/ In indirect proportion, the quantities are inversely related.
dot	/dɒt/ noun [C] a very small spot of ink or colour.
easy	/ˈiːzi/ (easier, easiest) adj not difficult, or not needing much work: <i>The test was easy.</i>
equivalent	/ɪˈkwɪvələnt/ adj of the same size, value, importance, or meaning as something else: <i>The price is £500, or the equivalent amount in euros.</i>
estimate	/ˈestɪmeɪt/ verb [T] to guess or calculate an amount or value by using available information: <i>The total cost was estimated at £600,000.</i>
fold	/fəʊld/ verb [T] to bend a piece of paper and press one part of it over another part: <i>Fold the paper in half.</i>
fraction	/ˈfrækʃ(ə)n/ noun [C] a small part or amount of something; a part of a whole number, for example $\frac{1}{2}$ or $\frac{3}{4}$ — fractional adj; improper common fraction /ɪmˈprɒpə(r)ˈkɒmən ˈfrækʃ(ə)n/ noun [C] a fraction where the numerator is greater than the denominator; mixed fraction /mɪkstˈfrækʃ(ə)n/ noun [C] a fraction which is made up of a whole number and a proper fraction.
full	/fʊl/ adj containing the largest amount that will fit in a particular place.
gross income	/grəʊsˈɪnkʌm/ a gross income is the total amount before taxes or costs have been taken out.
half	/hɑːf/ (plural halves /hɑːvz/) adv, determiner, number, pronoun, noun [C] one of two equal parts of a number, amount, group, or object.
halve	/hɑːv/ verb [I/T] to reduce something to half its original size or amount, or to become half the original size or amount: <i>Many shops have halved their prices.</i>
heavy	/ˈhevi/ (heavier, heaviest) adj a heavy object or person weighs a lot.
height	/haɪt/ noun [C/U] how high something or how tall someone is: <i>He was about the same height as his wife.</i>
illustrate	/ˈɪləstreɪt/ verb [T] to show or explain something by using examples, pictures, lists of numbers.
increase	/ɪnˈkri:s/ verb [I/T] to become larger in number or amount, or to make something do this: <i>The population has increased by 15 per cent.</i>
indicate	/ˈɪndɪkeɪt/ verb [T] to show that something will happen, that it is true, or that it exists: <i>A survey indicated that 89 per cent of people recycle paper.</i>

insert	/ɪn'sɜ:(r)t/ verb [T] to put something into something else: to add something at a particular place in a document or series.
Invert	/,ɪn'veɜ:(r)t/ verb [T] to turn upside down, or to put in the opposite position — inversion noun [C/U].
list	/lɪst/ noun [C] a set of names, numbers etc that are written or printed one below another.
long	/lɒŋ/ (longer, longest) adj measuring a large amount from one end to the other.
loss	/lɒs/ noun [C/U] an amount of money that a person loses when they spend more than they earn.
mass	/mæs/ noun [U] the amount of matter that something contains. Mass is different from weight as the effects of gravity are not taken into account when it is measured. Symbol <i>m</i> .
measurement	/ˈmeʒə(r)mənt/ noun [C] the exact size, amount, speed, rate of something, expressed in standard units.
metric	/ˈmetrɪk/ adj using or relating to the metric system of measurements.
millimetre	/ˈmɪlɪ,mi:tə(r)/ noun [C] a unit for measuring length in the metric system. <i>There are 1,000 millimetres in a metre.</i> Symbol: <i>mm</i> .
minuend	/ˈmɪnjʊˈend/ noun [C] the number from which another number subtrahend is to be subtracted.
missing	/ˈmɪsɪŋ/ adj if something is missing, it is not where it should be and you would expect it to be there.
move	/mu:v/ [I/T] to change position, or to make someone or something change position.
notice	/ˈnəʊtɪs/ verb [T] to become conscious of someone or something by seeing, hearing, or feeling them.
numerator	/ˈnju:mə, reɪtə(r)/ noun [C] the number that appears above the line in a common fraction.
practice	/ˈpræktɪs/ noun [C/U] occasions when you do something in order to become better at it, or the time that you spend doing this.
profit	/ˈprɒfɪt/make a profit noun [C/U] money that you get when you sell something for a price that is higher than the cost of making it or buying it.
quantity	/ˈkwɒntəti/ (plural quantities) noun [U] the amount of something: <i>They check both the quantity and quality of materials used.</i>
quarter	/ˈkwɔ:(r)tə(r)/ noun [C] one of four equal parts of something: <i>Over a quarter of our income goes on food.</i>
receive	/rɪˈsi:v/ verb [T] to get something that someone gives or sends you.
recurring digit	/rɪˈkɜ:rɪŋˈdɪdʒɪt/ noun [C] a number which is repeated again and again, often to infinity.
relationship	/rɪˈleɪʃ(ə)nʃɪp/ noun [C] the way in which two or more things are connected.
represent	/ˌreprɪˈzent/ verb [T] to be a sign or symbol of something.
row	/rəʊ/ noun [C] a series of people or things that are arranged in a straight line.
ruler	/ˈru:lə(r)/ noun [C] a long flat object that you use for measuring or for drawing straight lines.

section	/ˈsekʃ(ə)n/ noun [C] a person, group, part, or area that forms part of something larger.
separate	/ˈsepəreɪt/ verb [I/T] to divide something, or to become divided, into different parts.
sequence	/ˈsiːkwəns/ noun [C/U] a set of related things that happen or are arranged in a particular order.
shape	/ʃeɪp/ noun [C/U] the outer form of something: <i>Trace the shape onto the card and cut it out.</i>
simple interest	/ˈsɪmp(ə)l/ (simplest) noun [U] interest earned on money that someone has invested, calculated once a year on the principal (=the amount of money originally invested).
simplify	/ˈsɪmplɪfaɪ/ (simplifies, simplifying, simplified) verb [T] to make something such as a fraction or an equation simpler by removing those numbers or symbols that are the same in each part of it.
square	/skweə(r)/ noun [C] the number that is the result of multiplying one number by itself: <i>The square of 3 is 9.</i>
strip	/stri:p/ noun [C] a long narrow piece of something: <i>Cut the paper into strips.</i>
subtrahend	/ˌsəbtrəˈhend/ noun [C] a number that is to be deducted from another number.
surface	/ˈsɜː(r)fɪs/ noun [C] one of the sides of an object.
trade	/treɪd/ verb [I/T] to buy and sell goods or services: <i>Investors can now trade stocks online.</i>
true	/truː/ adj based on facts or on things that really happened; the opposite of false.
unit	/ˈjuːnɪt/ noun [C] a standard quantity that is used for measuring something: <i>The gram is a unit for measuring weight.</i>
weigh	verb [I/T] to have a particular weight or to measure how heavy something is.

Key:

1. a) apply, b) continue, c) covers, d) create, e) fold, f) halve, g) illustrate, h) indicates

2.

There are 100	decilitres in one litre.
There are 10	smaller than a whole number.
A decimal contains parts that are	equal to 0.1 metre.
A decimetre is a unit of length	for measuring weight.
The metre is the basic unit of length	in the metric system.
There are 1,000	millimetres in a metre.
The gram is a unit	repetition to infinity.
The dot above a number indicates	centimetres in one metre.

3. a) compare, b) insert, c) invert, d) move, e) notice, f) weigh

4.

S	X	R	W	P	O	H	S	E	H	C	B	N	E	E	D
M	H	S	R	E	R	O	E	T	E	P	I	L	V	E	E
I	C	E	E	B	B	F	P	R	S	S	A	I	E	U	U
O	E	H	B	A	O	O	A	N	I	B	E	G	J	C	X
L	R	J	W	Y	T	H	R	T	Y	C	S	O	H	D	S
H	M	O	F	E	N	T	D	R	E	E	T	N	B	Q	D
U	A	R	Q	U	A	T	U	R	O	N	V	A	R	F	
E	I	G	C	O	M	I	R	J	E	W	M	E	L	O	E
C	X	Q	C	A	C	N	S	S	E	P	A	R	A	T	E
V	C	Q	D	H	T	C	E	I	W	E	T	T	N	L	D
P	S	C	Z	R	N	R	Y	M	P	A	E	R	C	E	S
N	P	M	T	X	P	E	P	P	N	C	T	A	E	L	E
T	C	I	C	E	B	A	C	L	K	E	Z	D	U	L	A
Z	Y	T	R	X	P	S	E	I	H	I	F	E	J	P	G
E	F	E	E	A	N	E	S	F	F	A	Q	C	M	D	E
C	H	D	C	L	Y	I	E	Y	I	V	P	P	Y	E	R

5.

Amount	Money that you get when you sell something for a price that is higher than the cost of making it or buying it.
Chart	A quantity of something
Container	The price it costs to produce something without making any profit.
Cost price	A list, drawing or graph that shows information.
Diagram	Something used for storing or keeping things in.
Profit	A drawing that explains something.

6. **Across:** 5) numerator, 8) relationship, 10) quarter, **Down:** 1) fraction, 2) subtrahend, 3) complement, 4) denominator, 6) component, 7) half, 9) minuend

7. a) easy, b) equivalent, c) fractional, d) full, e) heavy, f) long, g) metric, h) missing, i) true

8.

a)	Calculate the capacity of the tank in litres.
b)	Use two methods to find the difference between these mixed numbers.
c)	To measure the combined volume, we multiply length by width by height.
d)	The total weight of the mixture of maize is 500kg.
e)	The quantity tells you the amount of something that you have.
f)	The surface is one of the sides of an object.
g)	Mass is the amount of matter that something contains.
h)	A ruler is a long flat object that you use for drawing straight lines.
i)	The equivalent is the same size or value as something else.

9.

direct	income
gross	digit
recurring	interest
simple	fraction
mixed	proportion
improper	fraction

10. a) shape, b) square, c) strips, d) unit, e) list, f) sections, g) sequence, h) row