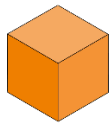


Help Your Child With CfE Level 2 Mathematics

S U M

A



T I M E S

H



D

E

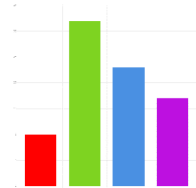
I

M

V

A D D I T I O N

T



D

I

E



C

S U B T R A C T



Introduction

This booklet has been designed so that you can use it with your child to help them revise for practice their mathematics and numeracy skills at Curriculum for Excellence level 2.

The booklet is not an exhaustive list of the contents - this booklet does summarise the majority of key facts and methods which your child should be familiar.

Key skills developed by learner in mathematics are:

- Interpreting questions
- Communicating processes and solutions
- Justifying choice of strategies
- Linking concepts
- Using proper mathematical vocabulary
- Mental agility
- Algebraic reasoning
- Determining the reasonableness of solutions

How to use this booklet

You can use this booklet to test your child's understanding of concepts. Basically, all you have to do is read out the question on the left-hand column of the page and they should be able to give the correct response which is shown in the right-hand column.

Don't worry if you are unsure of the topic as it is useful for your child to be able to explain what their understanding is and to describe their preferred method. This helps them to get a better grasp of their knowledge.

Thank you in advance for your help and good luck!

Topics

Estimation and Rounding
Number and Number Processes
Multiples, factors and primes
Fractions, Decimal fractions and percentages
Money
Time
Measurement
Patterns and Relationships
Expressions and Equations
Properties of 2D and 3D shapes
Angle
Symmetry
Data and Analysis
Probability and chance

Estimation and Rounding

| Question | Answer |
|---------------------------------------|--|
| How do you round? | If the next digit is 5 or more round up. |
| Round 56 to nearest 10 | 60 |
| Round 750 to nearest 100 | 800 |
| Round 7892 to nearest 1000 | 8000 |
| Round 1.72 to 1 decimal place | 1.7 |
| Estimate the answer to 23×57 | Close to $20 \times 60 = 1200$ |

Number and Number Process

| Question | Answer |
|--|---|
| What number is this? 4 567 145 | four million, five hundred and sixty-seven thousand, one hundred and forty-five |
| What does the 4 stand for in 36 489 | Four hundred |
| Which decimal is greater? 4•27 or 4•3 | 4•3 |
| Express 4•3 in another way | 4 ones and 3 tenths Or 43 tenths |
| Do this mentally. What is 468 + 10? | 478 |
| Estimate the answer to 23 x 57 | Close to 20 x 60 = 1200 |

Practice multiplication mentally

| × | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|-----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|-----------|-----------|-----------|
| 1 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| 2 | 2 | 4 | 6 | 8 | 10 | 12 | 14 | 16 | 18 | 20 | 22 | 24 |
| 3 | 3 | 6 | 9 | 12 | 15 | 18 | 21 | 24 | 27 | 30 | 33 | 36 |
| 4 | 4 | 8 | 12 | 16 | 20 | 24 | 28 | 32 | 36 | 40 | 44 | 48 |
| 5 | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 55 | 60 |
| 6 | 6 | 12 | 18 | 24 | 30 | 36 | 42 | 48 | 54 | 60 | 66 | 72 |
| 7 | 7 | 14 | 21 | 28 | 35 | 42 | 49 | 56 | 63 | 70 | 77 | 84 |
| 8 | 8 | 16 | 24 | 32 | 40 | 48 | 56 | 64 | 72 | 80 | 88 | 96 |
| 9 | 9 | 18 | 27 | 36 | 45 | 54 | 63 | 72 | 81 | 90 | 99 | 108 |
| 10 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 | 110 | 120 |
| 11 | 11 | 22 | 33 | 44 | 55 | 66 | 77 | 88 | 99 | 110 | 121 | 132 |
| 12 | 12 | 24 | 36 | 48 | 60 | 72 | 84 | 96 | 108 | 120 | 132 | 144 |

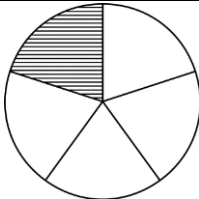
| Question | Answer |
|---|--|
| When you multiply by 10 what happens to each digit? | Each digit moves 1 column to the left |
| When you divide by 100 what happens to each digit? | Each digit moves 2 columns to the right |
| What is 0.73×10 ? | 0.73 |
| What is $4.57 \div 100$? | 0.0457 |
| What is 23×4 | $20 \times 4 = 80$ $3 \times 4 = 12$ Add together to make 92 |
| Try writing down this calculation. What is $43 \div 5$? | 8.6 |
| What word do you use for the order of calculations? | Brackets, Operations, Multiply, Divide, Add, Subtract |
| What is $5 + 3 \times 4$? | $5 + 12 = 17$ |
| What are the numbers below zero called? | Negative numbers |
| What number is 3 below zero? | -3 |

Multiples, Factors and Primes

| Question | Answer |
|------------------------------|--|
| What is a multiple? | A number that may be divided by another number without a remainder |
| What are the multiples of 4? | 4, 8, 12,.... |
| What is a factor? | A number that may be divides into another number without a remainder |
| What are the factors of 18 | 1, 2, 3, 6, 9, 18 |
| What is a prime number? | A number with only 2 factors itself and 1 |
| Is 7 a prime number? | Yes, because only $1 \times 7 = 7$ |

Fractions, Decimal Fractions and Percentages

| Question | Answer |
|--|---|
| How do you find half of a number? | Divide the number by 2 |
| How do you find a third of a number? | Divide the number by 3 |
| How do you find two-thirds of a number? | Divide the number by 3 then multiply your answer by 2 |
| What is a simpler fraction than $\frac{3}{6}$? | $\frac{1}{2}$ |
| What is fraction is greater $\frac{1}{2}$ or $\frac{2}{3}$? | $\frac{1}{2} = \frac{3}{6}$ and $\frac{2}{3} = \frac{4}{6}$ so $\frac{2}{3}$ is greater |
| What fraction is the same as 50%? | $\frac{1}{2}$ |
| What fraction is the same as 25%? | $\frac{1}{4}$ |
| What fraction is the same as 10%? | $\frac{1}{10}$ |
| What decimal is the same as 50%? | 0.5 |
| What decimal is the same as 25%? | 0.25 |

| Question | Answer |
|---|--|
| What decimal is the same as 10%? | 0.1 |
| What is 50% of £12? | $\frac{1}{2}$ of £12 = £6 |
| What is 10% of £12? | £12 \div 10 = £1.20 |
| How could you work out 15%? | Work out 10% then 5% and add them together |
| What fraction is the same as 0.5%? | $\frac{1}{200}$ |
| What fraction is the same as 0.25%? | $\frac{1}{400}$ |
| What fraction is the same as 0.1%? | $\frac{1}{1000}$ |
| If you have a cake and eat $\frac{1}{4}$, what fraction is left? | $1 - \frac{1}{4} = \frac{3}{4}$ |
| In a sale, you save 15%. What percentage do you pay? | 100% - 15% = 85% |
| What percentage of the pie chart is coloured?  | $\frac{1}{5}$ |

Money

| Question | Answer |
|---|--|
| What coins do we use in Britain? | 1p, 2p, 5p, 10p, 20p, 50p, £1 and £2 coins |
| What coins would you use to make 77p | 50p, 20p, 5p and 2p |
| You can buy 100g of cereal for £2.50 or 200g for £4. Which is best buy? | 200g box |
| What is £1 shared between 4 people? | 25p |
| What is £1•80 plus 34p | £2•14 |
| A banana cost 34p how much would 3 bananas cost? | 104p or £1•04 |
| John bought a computer game for £40 and traded it in for £14. How much of a loss did he make? | $40 - 14 = £26$ |
| If you make cups for 25p and want to sell them to make a 15p profit. How much should you sell them for? | $25 + 15 = 40p$ |
| What is the machine called which you use to take out cash? | ATM (automatic teller machine) |
| What card do you use if you buy things and pay later? | Credit card |

Time

| Question | Answer |
|--|---|
| What type of clock has hands which move? | Analogue |
| How do you change 24 hour time to 12 hour time? | If the time is less than 12 it is am. If the time is more than 12, take away 12 and add pm |
| What is 5 am in 24 hour time? | 05 00 |
| What is 5pm in 24 hour time? | 17 00 |
| What time is noon? | 12 pm or 12 00 |
| What time is 00 00 | 12am or midnight |
| How many minutes is $\frac{1}{4}$ of an hour? | 15 minutes |
| How many days are in each month? | 30days – April, June, September, November 28/29 days – February 31 days – all others |
| How many hours/minutes is it between 9:30am and 11:00am? | 1 hour and 30 minutes |
| What time is it 12 minutes after 8:50am | 9:02am |

| Question | Answer |
|---|---------------------------|
| What time units would you use for a race? | Seconds |
| How long is a decade? | 10 years |
| How long is century? | 100 years |
| A car can travel 200 miles in 4 hours. How far did it travel in 1 hour? | $200 \div 4 = 50$ miles |
| A train can travel at 70 miles per hour. How far can it travel in 3 hours? | $70 \times 3 = 210$ miles |

Measurement

| Question | Answer |
|--|--|
| What units would you use to measure distance? | Millimetres, centimetres, metres, kilometres |
| What units would you use to measure volume of liquids? | Millilitres, litres |
| What units would you use to measure weight? | Grams, kilogrammes, tonnes |
| What is the perimeter of a shape? | The distance around the outside |
| What is the area of a shape? | The space in the inside of a flat shape |
| How many millimetres are make 1 centimetre? | 10 millimetre = 1 centimetre |
| Change 24mm into centimetres | $24 \div 10 = 2.4$ cm |
| How many grams make 1 kilogram? | 1 kilogram = 1000 grams |
| How do you convert kilograms into grams? | Multiply by 1000 |
| Change 3.4 kilograms into grams | $3.4 \times 1000 = 3400$ grams |

| Question | Answer |
|--|---|
| How many millilitres make a litre? | 1000 ml = 1 litre |
| How do you convert litres into millilitres? | Multiply by 1000 |
| Change 800 ml into litres. | $800 \div 1000 = 0.8$ litres |
| Which is smaller? 7 millimetres or 0.6 centimetres? | 0.6 centimetres |
| How do you calculate the area of a rectangle? | Multiply the length by the breadth |
| How do you calculate the area of a triangle? | Multiply the length by the breadth then divide by 2 |
| What units would you use for area? | Square centimetres, cm^2 , or square metres - m^2 |
| How do you calculate the volume of a cuboid? | Multiply the length by the breadth by the height |
| What units would you use for volume? | cubic centimetres, cm^3 |


Patterns and Relationships

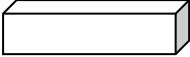

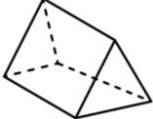
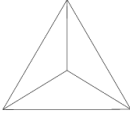
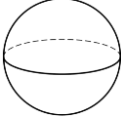

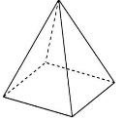
| Question | Answer |
|--|--|
| What is the rule for this sequence 3, 5, 7, ...? | Add on 2 |
| What is the next number in the sequence 3, 5, 7, ...? | 9 |
| What is the rule for this sequence 2, 5, 8 ...? | Add on 3 |
| What is the next number in the sequence 2, 5, 8 ...? | 11 |
| What is a square number? | Multiplying a number by itself makes a square number |
| What is the sequence of numbers 1, 3, 6, 10, 15, ... known as? | Triangular numbers |

Expressions and Equations

| Question | Answer |
|---|-------------------|
| What number replaces the letter x? $3 + x = 8$ | 5 |
| What number replaces the letter x? $x + 2 = 9$ | 7 |
| What number replaces the letter b? $3 \times b = 12$ | 4 |
| What number replaces the letter e? $e \times 4 = 8$ | 2 |
| If $n = 3$, what is $n + 4$? | $3 + 4 = 7$ |
| If $n = 3$, what is $n \times 4$? | $3 \times 4 = 12$ |
| What number replaces the letter n? $\frac{n}{4} = 3$ | 12 |

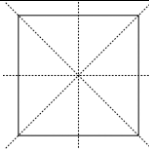
Properties of 2D Shapes and 3D Objects

| Question | Answer |
|--|---|
| What do you call a triangle with 3 sides the same length? | Equilateral |
| What do you call a triangle with 2 sides the same length? | Isosceles |
| What do you call a triangle with all the sides the different lengths? | Scalene |
| What is a quadrilateral? | A shape with 4 sides |
| Name different quadrilaterals | Square, rectangle, parallelogram, rhombus, trapezium, kite, delta |
| What is the name of the line which passes through the centre of the circle? | Diameter |
| What is the name of the line which is the distance from the centre of a circle to the outside? | Radius |
| What is the name of the perimeter of a circle? | Circumference |
| How does the radius compare to the diameter? | The radius is half the length of the diameter |
| What is the name of this solid?  | Cube |

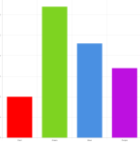
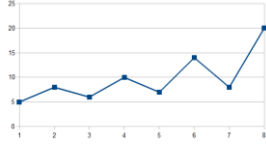


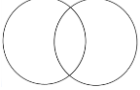
| Question | Answer |
|--|----------------------|
| What is the name of this solid?  | Cuboid |
| What is the name of this solid?  | Cylinder |
| What is the name of this solid?  | Triangular prism |
| What is the name of this solid?  | Tetrahedron |
| What is the name of this solid?  | Sphere |
| What is the name of this solid?  | Hemisphere |
| What is the name of this solid?  | Square based pyramid |

Angle, Symmetry and Transformation

| Question | Answer |
|--|----------------|
| What do you call 2 straight lines which never meet? | Parallel lines |
| How many degrees are in a right angle? | 90° |
| How many degrees are in a straight angle? | 180° |
| What is the type of angle which is less than 90° ? | Acute |
| What is the type of the angle which is between 90° and 180° ? | Obtuse |
| What is the type of the angle which is between 180° and 360° ? | Reflex |
| What mathematical instrument do you use to measure angles? | Protractor |
| What size are the angles in an equilateral triangle? | 60° |
| How many degrees are there in a $\frac{1}{4}$ turn? | 90° |
| What is the bearing of East? | 090° |

| Question | Answer |
|--|--|
| How do you would out the real-size of an object if the scale is 1:200 | Multiply the image by 200 |
| On a map the scale is 1:200. If the length of an object is 3cm on the map, how long is it in real-life | $3 \times 200 = 600 \text{ cm}$ |
| On a Cartesian grid what is the name of the horizontal axis? | x-axis |
| On a Cartesian grid what is the name of the vertical axis? | y-axis |
| What is the point where the axis met named? | Origin |
| In a coordinate point which number is written first? | x-coordinate |
| If one side of a 2D shape fits exactly over the other half what is this called? | Symmetry |
| What is the name of the mirror line? | Line of symmetry or axis of reflection |
| How many lines of symmetry does as square have? | 4  |
| Which capital letters have 1 line of symmetry? | A B C D E M T U V W (H, I, O have 2 lines of symmetry) |

Data and Analysis

| Question | Answer |
|--|--|
| What is word do you use to mean the number of times something happens? | Frequency |
| What type of chart uses symbols or pictures to show the frequency? | Pictograph |
| What type of chart is this?  | Bar chart |
| What type of chart is this?  | Line Graph |
| What type of chart is this?  | Pie chart |
| How do you show 5 on a tally chart | Make 4 strokes and cross through.  |
| What type of chart is this?  | Venn Diagram |

Probability and Chance

| Question | Answer |
|--|--------------------------------------|
| What does “impossible” mean? | Something will definitely not happen |
| What does “certain” mean? | Something will definitely happen |
| What is the probability you will watch TV tonight? | “Likely” |
| What is the probability you will win the lottery? | “Unlikely” |
| What is the probability you will throw a six on a dice? | $\frac{1}{6}$ |
| What is the probability you will get a “head” when tossing a coin? | $\frac{1}{2}$ |