Year 6 to 7 Transition Tasks
Maths

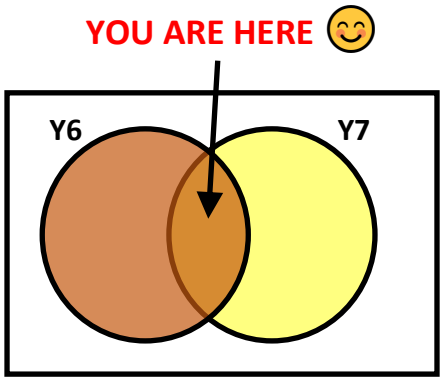
'Be inspired'

This booklet is designed to be completed over 6 weeks.

Each week will be broken up into two tasks.

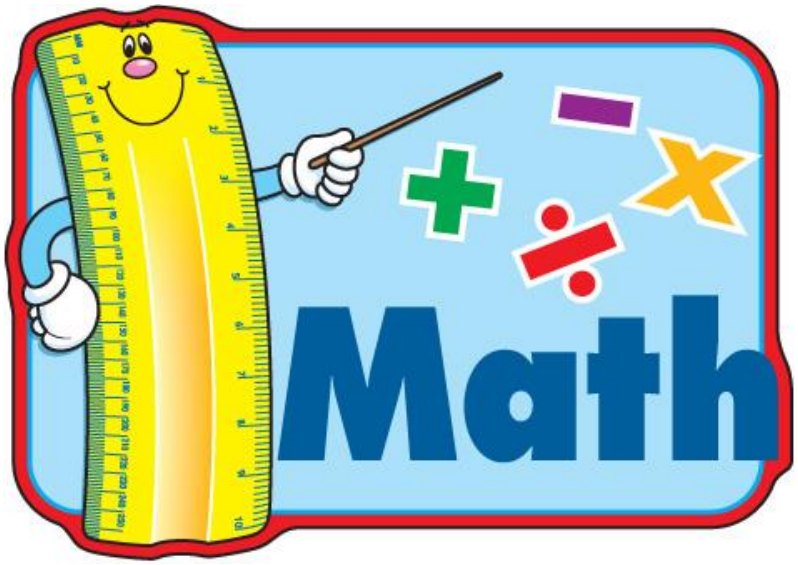
TASK 1: Revision Mat – Mixed Topics
Get into good habits and make sure you show all of your working for each question.

TASK 2: Problem-Solving Challenge
Think about how you will approach this task. Again, show all your working. It's not all about the final solution – the fun is in the journey getting to it 😊😊😊



Week	Revision Mat #Correct	Problem Solving (Tick/Cross)
1		
2		
3		
4		
5		
6		

‘Be inspired’



Week 1 – Task 1

a

3.9 × 30 =

c

$1\frac{3}{4} + \frac{1}{2}$

Write your answer as a mixed number fraction.

e

Two of the angles in a triangle are 60° and 50°.

Logan says, ‘The triangle must be isosceles.’

Explain why Logan is **not** correct.

b

Molly completes this calculation:

$$\begin{array}{r} 85 \\ -\ 68 \\ \hline 17 \end{array}$$

Write an **addition** calculation she could use to check her answer.

d

Jamie has £300. He spends 65% of the money on a new bike.

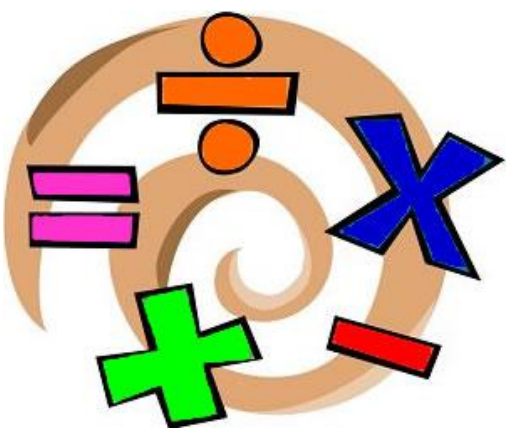
How much does Jamie spend on his new bike?

f

The numbers in this sequence **decrease** by the same amount each time.

204 718, 203 718, 202 718, 201 718, 200 718

What is the next number in the sequence?



Week 1 – Task 2

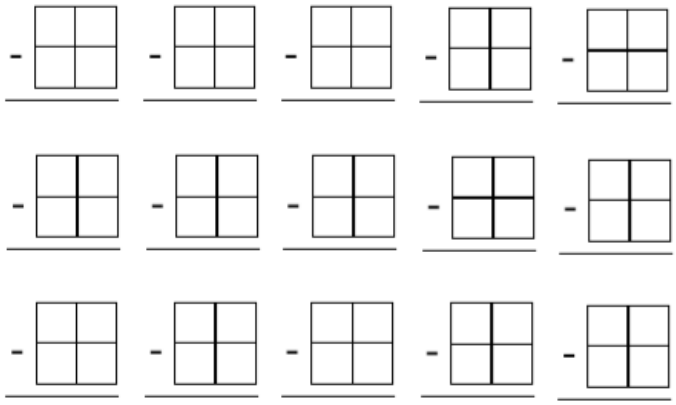
Making a Difference

There are a number of ways the digits 2, 5, 7, and 8 can be placed in a subtraction sum like the one on the right:

−	5	7
	2	8
	2	9

In this example, the answer is 29.

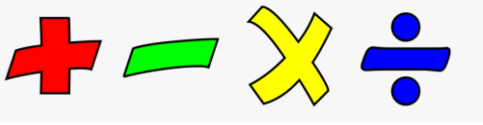
Can you rearrange the digits to find all the (positive) answers it is possible to make? *You will not need to use every box.*



BRIGHT SPARKS EXTENSION QUESTIONS

Can you work out which four digits you need to start with to be able to get all the possible answers 7, 9, 11, 13, 18, 22, 29, and 31?

Can you show that if you're only allowed to use consecutive digits (e.g. 5, 6, 7, 8), 31 is the largest possible answer and 7 the smallest?



EXTRA WORKING SPACE

Week 2 – Task 1

a

A book has 316 pages. Ameena reads $\frac{1}{4}$ of the pages.

How many pages does Ameena have **left** to read?

b

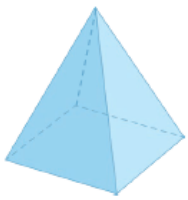
The temperature in the fridge is 6°C.

The temperature in the freezer is -22°C.

What is the **difference** between the two temperatures?

c

Here is a drawing of a 3D shape.



Identify the number of faces, vertices and edges which the shape has:

faces:

vertices:

edges:

What is the name of this 3D shape?

d

0.1 ÷ 100

e

Identify all the common factors of both 12 and 28.

f

There are 24 students in a class.

The teacher has 8 litres of blackcurrant squash.

They pour 275 millilitres of blackcurrant squash for each student.

How much squash is **left** over? Give your answer in litres.

Week 2 – Task 2

nrich Cryptarithms

In each of the cryptarithms below, each letter stands for a different digit (0 is never the first digit of any number).

Find a solution to each cryptarithm.
Do any of them have more than one solution?

1) $\begin{array}{r} A \\ A \\ +\ A \\ \hline BA \end{array}$

2) $\begin{array}{r} BB \\ +\ A \\ \hline ACC \end{array}$

3) $\begin{array}{r} AB \\ +\ A \\ \hline BCC \end{array}$

4) $\begin{array}{r} AB \\ +\ A \\ \hline CDC \end{array}$

5) $\begin{array}{r} AB \\ +\ BC \\ \hline BCB \end{array}$

6) $\begin{array}{r} AB \\ +\ CB \\ \hline BA \end{array}$

7) $\begin{array}{r} AB \\ +\ CB \\ \hline BBA \end{array}$

8) $\begin{array}{r} AB \\ AB \\ AB \\ +\ AB \\ \hline CA \end{array}$

9) $\begin{array}{r} AA \\ +\ BB \\ \hline CBC \end{array}$

10) $\begin{array}{r} AB \\ +\ AB \\ \hline CBB \end{array}$

11) $\begin{array}{r} AB \\ +\ AB \\ \hline CA \end{array}$

12) $\begin{array}{r} AB \\ +\ AB \\ \hline BC \end{array}$

13) $\begin{array}{r} AAA \\ BB \\ +\ A \\ \hline CAB \end{array}$

14) $\begin{array}{r} ABC \\ +\ ACB \\ \hline CBA \end{array}$

15) $\begin{array}{r} ABC \\ +\ ABC \\ \hline CDDB \end{array}$

16) $\begin{array}{r} ABC \\ +\ CBC \\ \hline CDEB \end{array}$

17) $\begin{array}{r} ABC \\ ABC \\ +\ ABC \\ \hline CCC \end{array}$

18) $\begin{array}{r} ABC \\ ABC \\ +\ ABC \\ \hline BBB \end{array}$

19) $\begin{array}{r} AB \\ BC \\ +\ CA \\ \hline ABC \end{array}$

20) $\begin{array}{r} A \\ BB \\ +\ CCC \\ \hline BAB \end{array}$

21) $\begin{array}{r} A \\ BB \\ +\ CCC \\ \hline BCB \end{array}$

22) $\begin{array}{r} BAA \\ BAA \\ BAA \\ +\ BAA \\ \hline CAAD \end{array}$

23) $\begin{array}{r} ABA \\ ABA \\ ABA \\ ABA \\ +\ ABA \\ \hline CDBA \end{array}$

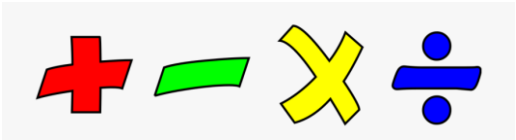
BRIGHT SPARKS EXTENSION QUESTIONS

Is it possible for all of the digits 1 to 9 to appear exactly once in the addition below?

$$\begin{array}{r} \#\ \#\ \# \\ +\ \#\ \#\ \# \\ \hline \#\ \#\ \# \end{array}$$

Using each digit from 1 to 9 once, what is the largest sum you can obtain in the addition above?

And smallest?



EXTRA WORKING SPACE

Week 3 – Task 1

a

0.25, $\frac{75}{100}$, $\frac{14}{100}$, 0.5, $\frac{3}{12}$

Which two numbers from the list are equivalent to $\frac{1}{4}$?

b

Here are four number cards:

6	1	7	5

i. Ava uses each card once to make a four-digit number. She places:

- 5 in the hundreds column;
- 6 so that it has a lower value than any of the other digits;
- The remaining 2 digits so that 1 has the higher value.

What is Ava's number?

ii. Ava was given an extra card. When she multiplied the number on the card by 1576, the result was 15 760.

What number was on the card?

c

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

d

Elijah buys 4 large crates of oranges and 3 small crates of oranges.

Each large crate has 32 oranges and each small crate has 16 oranges.

Elijah would like to give 1 orange to each student in his year group.

If there are 180 students in his year group, does he have enough oranges so that every student receives 1 orange each?

e

$8^2 - 45 \div 5$

f

Calculate 99% of 500

Week 3 – Task 2

Peaches Today, Peaches Tomorrow...

(i) A little monkey had 60 peaches.

On the first day, he kept $\frac{3}{4}$ of his peaches, gave the rest away, then ate one.

On the second day, he kept $\frac{7}{11}$ of his peaches, gave the rest away, then ate one.

On the third day, he kept $\frac{5}{9}$ of his peaches, gave the rest away, then ate one.

On the fourth day, he kept $\frac{2}{7}$ of his peaches, gave the rest away, then ate one.

On the fifth day, he kept $\frac{2}{3}$ of his peaches, gave the rest away, then ate one.

How many peaches did he have left?

(ii) A little monkey had 75 peaches.
Each day, he kept a fraction of his peaches, gave the rest away, and then ate one.
These are the fractions he decided to keep:

$$\frac{1}{2} \quad \frac{1}{4} \quad \frac{3}{4} \quad \frac{3}{5} \quad \frac{5}{6} \quad \frac{11}{15}$$

In which order did he use the fractions so that he was left with just one peach at the end?

BRIGHT SPARKS EXTENSION QUESTIONS

Whenever the monkey has some peaches, he always keeps a fraction of them each day, gives the rest away, and then eats one.
I wonder how long he could make his peaches last for...

Here are his rules:

- Each fraction must be in its simplest form and must be less than 1.
- The denominator can never be the same as the number of peaches left. For example, if there were 45 peaches left, he could not choose to keep $\frac{44}{45}$ of them.

Can you start with fewer than 100 peaches and choose fractions so that there is at least one peach left after a week?

Starting with fewer than 100, what is the longest you can make the peaches last?

EXTRA WORKING SPACE

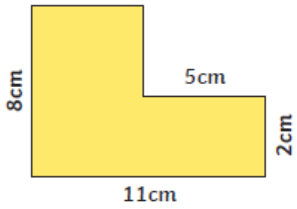
Week 4 – Task 1

a

What number is 10 times greater than two hundred and ninety-seven?

b

Calculate the area and perimeter for the following shape. Don't forget the units in your answer.



c

2814 × 45

d

64.25 + 24.5

e

A child's heart beats an average of 80 times per minute.

How many times, on average, will it beat between 8.30am and 3.30pm on the same day?

f

I think of a number.

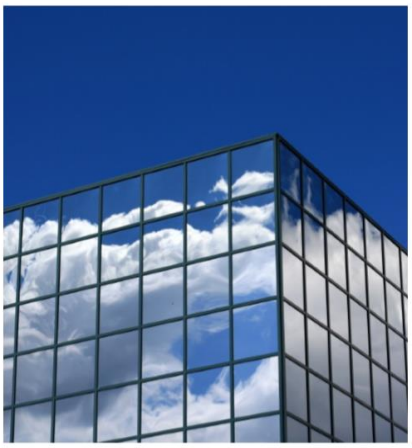
I add 42 then multiply by 3.

Finally, I halve it. The result is 75.

What number was I thinking of?

Week 4 – Task 2

Cuboids



Find a cuboid (with edges of whole number lengths) that has a surface area of exactly 100 square units.

Is there more than one?

Can you find them all?

Can you provide a convincing argument that you have found them all?

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BRIGHT SPARKS EXTENSION QUESTIONS

Express the method for calculating surface area algebraically.

Which surface area values will generate lots of cuboids, and which give none or just one?

Could you set up a spreadsheet to help with the calculations?

EXTRA WORKING SPACE

Week 5 – Task 1

a

Round 82 275 to the nearest:

i. 10

ii. 100

iii. 1000

iv. 10 000

c

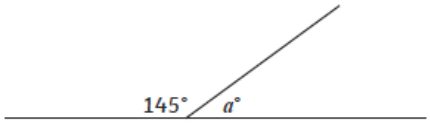
Draw all the lines of symmetry on the diagram below.

e

6082 – 467.002

b

Calculate the missing angle, *a*.



d

A farmer is packing eggs.

Each box holds six eggs.

The farmer has 860 eggs to pack.

i. How many boxes can the farmer fill?

ii. How many eggs will be left over?

f

A bag contains 7 red beads, 4 blue beads, 5 orange beads and 2 pink beads.

If a bead is picked at random, what is the probability of getting:

i. A red bead?

ii. A blue or pink bead?

iii. Not an orange bead?

Week 5 – Task 2

Fibonacci Surprises

You may have seen this sequence before:

1, 1, 2, 3, 5, 8, 13, 21, ...

It is called the **Fibonacci Sequence**, and each term is calculated by adding together the previous two terms in the sequence.

Try adding together any three consecutive Fibonacci numbers.

What do you notice?
Can you explain it?

Choose any four consecutive Fibonacci numbers. Add the first and last, and divide by two.

What do you notice?
Can you explain it?

Add together any six consecutive Fibonacci numbers and divide by four.

What do you notice?
Can you explain it?

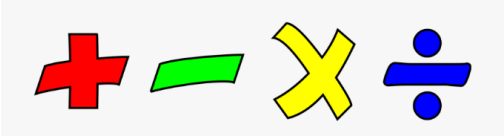
Can you discover any Fibonacci Surprises of your own?

BRIGHT SPARKS EXTENSION QUESTIONS

Can you discover any Fibonacci surprises of your own?

Write out algebraic representations of sets of consecutive terms & explore different ways to combine them.

Have fun 😊😊😊



EXTRA WORKING SPACE

Week 6 – Task 1

a

Using <, = or >, write the correct symbol in each box to make the statements correct.

11 × 8 ☐ 6 × 14

90 ÷ 30 ☐ 80 ÷ 40

30 × 2 ☐ 15 × 4

155 ÷ 5 ☐ 160 ÷ 4

b

Write these fractions in order, starting with the smallest.

$\frac{7}{6}$ $\frac{4}{6}$ $\frac{6}{18}$

c

Lily should have divided a number by 4, but instead she subtracted 4.

She got the answer 88.

What should her answer have been?

d

Write the following in order, starting with the smallest:

2.09, 2.9, 20.9, 2.19, 2.009

e

Write:

i. 420mm in cm

ii. 67cm in m

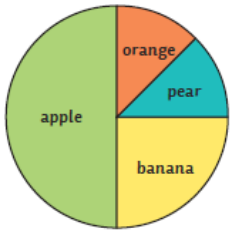
iii. 5.45kg in g

iv. 880ml in l

v. 312cm in mm

f

A teacher carried out a survey to find out students' favourite fruit. They drew a pie chart to show the results.

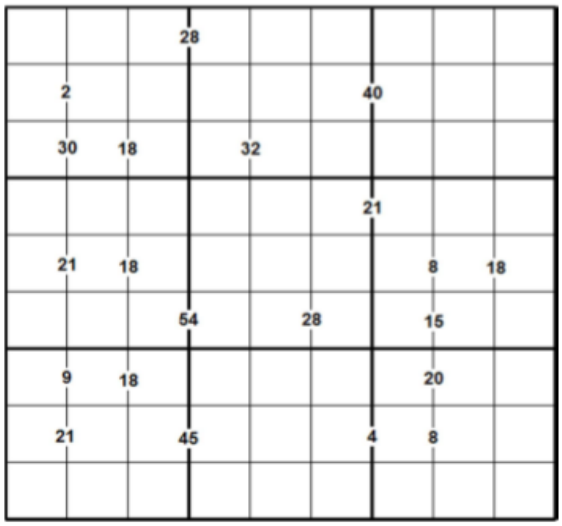


i. If 6 students chose banana, how many students chose apple?

ii. How many students, in total, were asked in the survey?

Week 6 – Task 2

Multiples Sudoku



Rules of Multiples Sudoku

Like a conventional Sudoku, this Multiples Sudoku has two basic rules:
1. Each column, row, and 3 x 3 subgrid must have the numbers 1 to 9.
2. No column, row, or subgrid can have two cells with the same number.

The puzzle can be solved with the help of the numbers which are placed on the border lines between selected pairs of neighbouring cells. These numbers are the product of the two digits in the cells to the left and right of the clue.

For example, where there is a 12 on the line between two neighbouring cells, the cells must contain 2 and 6, or 6 and 2, or 3 and 4, or 4 and 3.

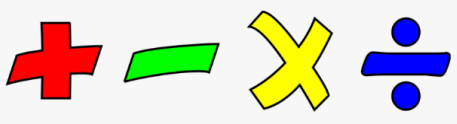
After finding the values of all the unknown digits, the puzzle is solved by the usual sudoku strategy.

BRIGHT SPARKS EXTENSION QUESTIONS

Can you create one of your own?

Maybe with different rules (i.e. a 'sum sudoku' or a 'difference sudoku' or a 'diagonal multiples sudoku' or… ?)

Have fun 😊 😊 😊



EXTRA WORKING SPACE