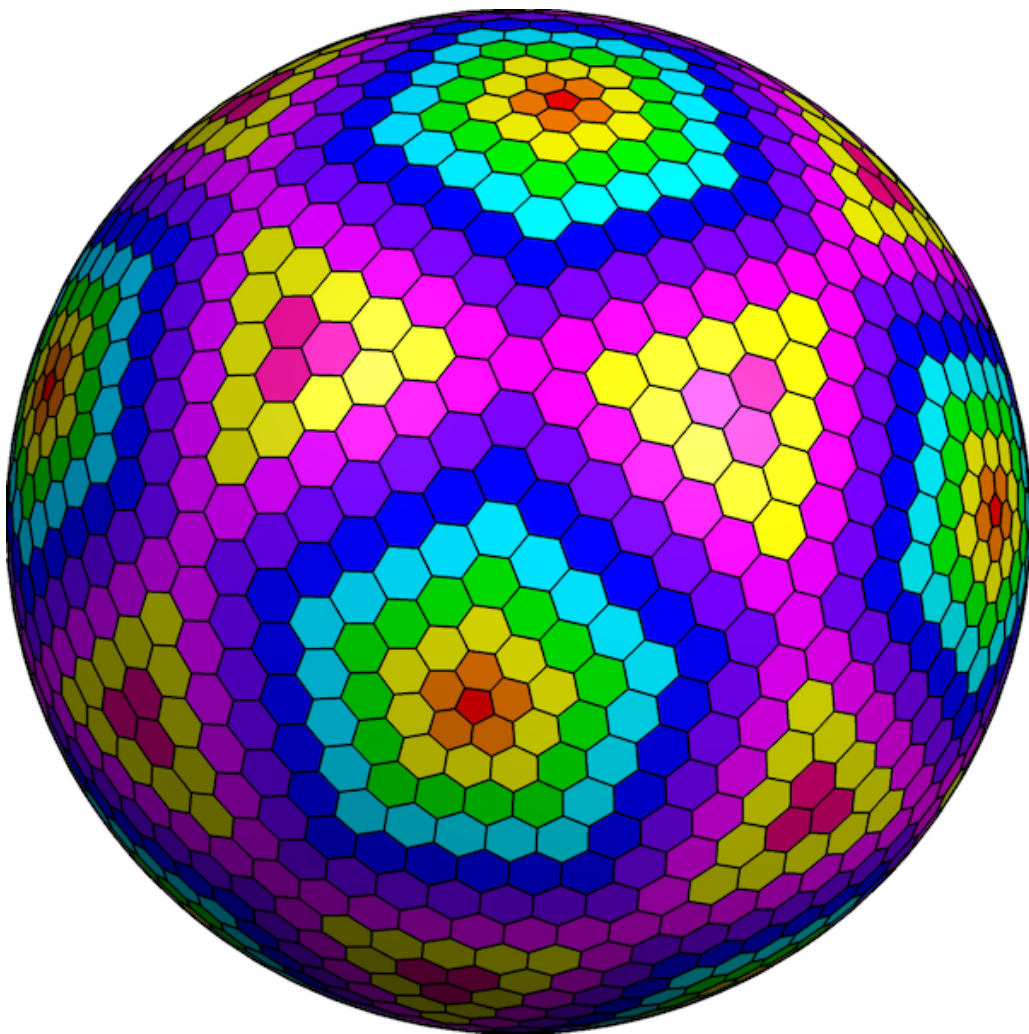


~ Year 9 ~
Examination Revision
for the
End of Year Exam



Summer Examinations 2024

Exams start Monday 10th June 2024

These examinations are an important measure of your progress. You need to take them seriously, revise properly, and do your best. This material is your foundation for GCSE; being strong with this knowledge now is a big step towards coping well with the GCSE course, which you start next year.

Non-Calculator Paper (75 minute, 80 mark exam)

- ◇ Set Theory including Venn Diagrams and the symbols $\cap$, $\cup$, $\in$, $\emptyset$
- ◇ Prime Numbers including The Fundamental Theorem of Arithmetic
- ◇ Highest Common Factors, Lowest Common Multiples
- ◇ Laws of Indices
- ◇ Arithmetic with Fractions
- ◇ Arithmetic with Decimals
- ◇ Basic Algebra
- ◇ Linear Equations
- ◇ Sequences
- ◇ Ratio
- ◇ Simultaneous Equations
- ◇ Expanding Brackets, especially questions like $(2x + 5)(4x + 3)$

Calculator Paper (75 minute, 80 mark exam)

- ◇ The Theorem of Pythagoras
- ◇ Right Angled Trigonometry: SOH CAH TOA
- ◇ Percentages
- ◇ Quadratic Equations
- ◇ Quadratic Formula
- ◇ Straight Lines
- ◇ Perimeter, Area & Volume
- ◇ Angles & Polygons

Your OneNote files are a valuable revision resource. Know your way around it and add your own revision notes. You are talking to your future self, so that when you need to re-learn the material later on, you have made it easy for yourself.

Don't forget that extra help is available at the twice a week maths clinic !

MATHS CLINIC : 1.50 - 2.50 pm Monday
 5.00 - 6.00 pm Wednesday

This document is a part of a **Mathematics Community Outreach Project** initiated by Shrewsbury School

It may be freely duplicated and distributed, unaltered, for non-profit educational use

In October 2020, Shrewsbury School was voted "**Independent School of the Year 2020**"

© 2022 Number Wonder

Teachers may obtain detailed worked solutions to the exercises by email from mhh@shrewsbury.org.uk

YOUR NAME : _____

Summer Examination Revision 2024

Exams start Monday 10th June 2024

Lesson 1

Marks Available : 100

1.1 Exercise

Question 1

The factors of 18 are the whole numbers that divide into 18 exactly without remainder.
There are six of them.
List them all.

[5 marks]

Question 2

A prime number only divides by itself and 1.
Next to each of the following numbers write either **PRIME** or **NOT PRIME**.

5	9
11	18
25	

[5 marks]

Question 3

The factors of 36 are { 1, 2, 3, 4, 6, 9, 12, 18, 36 }
The factors of 64 are { 1, 2, 4, 8, 16, 32, 64 }
What is the Highest Common Factor of 36 and 64 ?

[5 marks]

Question 4

- (i) What is 25% of £80 ?
- (ii) What is 50% of £300 ?
- (iii) What is 10 % of £50 ?
- (iv) What is $33\frac{1}{3}\%$ of £60 ?
- (v) What is 75% of £12 ?

[10 marks]

Question 5

$$7 \times 7 \times 7 \times 7 \times 13 \times 13 = 7^4 13^2$$

In a similar style, what do the following equal ?

(i) $11 \times 11 \times 11 \times 11 \times 11 \times 11 \times 11 \times 11$

(ii) $2 \times 2 \times 2 \times 2 \times 3 \times 3 \times 3 \times 3 \times 3$

(iii)
$$\frac{5 \times 5 \times 5 \times 5 \times 5 \times 5 \times 5}{5 \times 5 \times 5}$$

(iv)
$$\frac{7 \times 7 \times 7}{7 \times 7 \times 7 \times 7 \times 7}$$

(v)
$$\frac{2 \times 2 \times 2 \times 5 \times 5 \times 7 \times 7 \times 7}{2 \times 5 \times 5}$$

[10 marks]

Question 6

Multiples of 4 = { 4, 8, 12, 16, 20, 24, 28, 32, 36, 40, }

(a) List the first 10 multiples of 6.

(b) What is the Lowest Common Multiple of 4 and 6 ?

[5 marks]

Question 7

Solve this equation;

$$4x - 7 = 25$$

[5 marks]

Question 8

- (i) What is the sum of the interior angles in any triangle ?
- (ii) How many degrees are in a right angle ?
- (iii) What is the sum of the interior angles in any quadrilateral ?
- (iv) How many sides has an octagon ?
- (v) What is the sum of the interior angles in a regular pentagon ?

[5 marks]

Question 9

Showing full working, calculate

(i) $\frac{2}{5} + \frac{1}{3}$

(ii) $\frac{3}{11} + \frac{2}{9}$

(iii) $\frac{2}{7} + \frac{3}{10}$

(iv) $\frac{3}{8} + \frac{2}{3}$

[16 marks]

Question 10

What is £7.68 + £3.85 ?

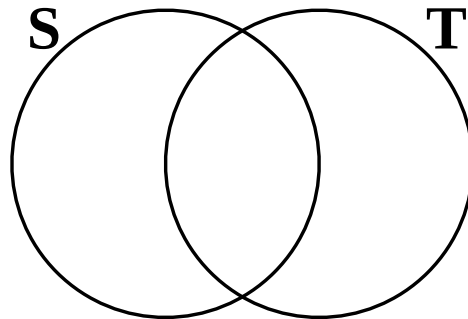
[4 marks]

Question 11

(a) On a Venn Diagram to show the relationship between the sets S and T where $S = \{ \text{The factors of 16} \}$ and $T = \{ \text{The factors of 12} \}$

$$S = \{ _, _, _, _, _ \}$$

$$T = \{ _, _, _, _, _, _ \}$$



(b) List the elements of

(i) $S \cap T$

(ii) $S \cup T$

(iii) $S \cap T'$

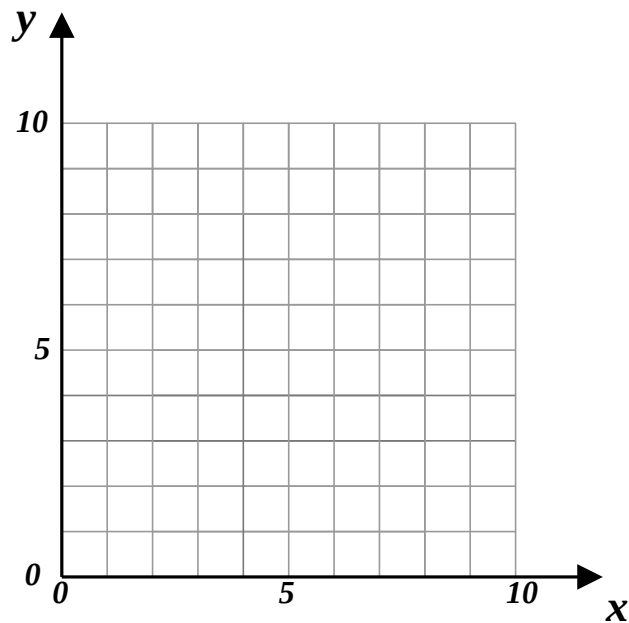
[10 marks]

Question 12

(a) Complete this table

x	0	1	2	3	4	5	6	7	8	9	10
$y = 0.5x + 3$				4.5							

(b) Use your table to plot the line with equation $y = 0.5 x + 3$



(c) In the graph of $y = 0.5 x + 3$ what is the significance of the number 3 ?

(d) In the graph of $y = 0.5 x + 3$ what is the significance of the number 0.5 ?

[10 marks]

Question 13

(i) Expand the brackets;

$$(2x + 5) (4x + 3)$$

[5 marks]

(ii) Solve the equation;

$$(2x + 5) (4x + 3) = 0$$

[5 marks]

This document is a part of a **Mathematics Community Outreach Project** initiated by Shrewsbury School

It may be freely duplicated and distributed, unaltered, for non-profit educational use

In October 2020, Shrewsbury School was voted “**Independent School of the Year 2020**”

© 2022 Number Wonder

Teachers may obtain detailed worked solutions to the exercises by email from mhh@shrewsbury.org.uk