Round 1 Syllabus AY 24-25

Grade 6

Numeracy	Shape & Space	Algebra	Statistics
- Read, write numbers with place value (Indian Number System) - Even and Odd Numbers - Prime and Composite Numbers - 4 basic operations (4 digit) - Add / Subtract / Multiply / Divide (4 digit by 2 digit at least) - Tables at least till 10 - Ordering numbers (Ascending , Descending , Increasing , Decreasing) - Expressing and representing fractions. - Using appropriate units for measurement - Multiples - Factors - Divisibility Rules (2, 5, 10) - Reading the clock - Conversion of Rupees to Paise and reverse	- Identify and draw 2D shapes : square , rectangle , triangle , circle (using a compass and ruler) - Identify, drawing, measuring angles : a) Types b) using a protractor - Types of lines : a) parallel b) intersecting c) perpendicular - Drawing a line segment of given length - Familiarity with Geometry Vocabulary : acute, obtuse, vertex, side etc., parts of circle, diameter, radius -	- Growth of patterns and describing how they grow	- Interpret Pictographs - Interpret Tally Mark Table

G6 Sample Questions

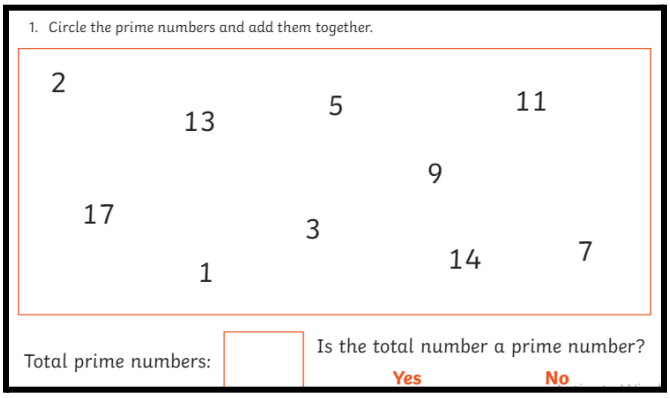
N.1 The cost of the story book is one thousand one hundred and fifty.
Write the cost of the story book in numerical figures

N.2 . In 129 if 2 is in Tens place in which place is 9?
Write 3 unique four digit numbers from the given digits (without repetition of the digit).
1, 3, 0, 2
Four digit numbers

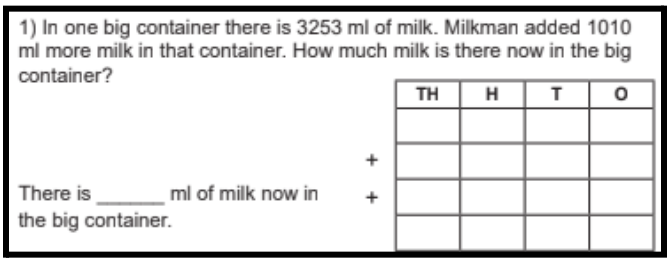
N.3

Number Problem	Answer Estimation (Circle whether you think the answer will be an odd or even number)	Example	Odd or Even?	Was my guess correct?
Odd + Odd =	(Odd) Even	7 + 3 = 10	Even	No

N.4



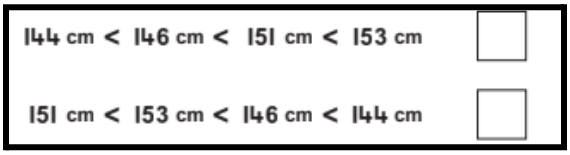
N.5



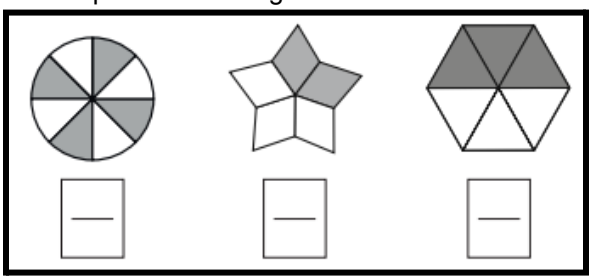
The largest four digit number is 9,999 and the smallest four digit number is 1,000. What is the difference between these two
Numbers?

N.6 John had bowl of marbles that weighed 63 gm. He added 54 gm more marbles in the bowl . Then, he divided the marbles equally into boxes that each weighed 9 gm. How many boxes of marbles did he make?

.N.7 Samira has to arrange her class student ascending order of height. Which order has a error?

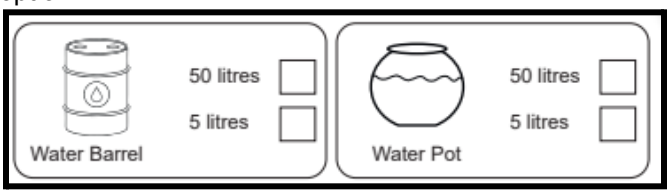


N.8
Write the fraction represented by the shaded part in the box given below.



N.9

Estimate the capacity. Tick [] the correct option.



N.10
List the first two factors of 15

N.11
Can you find a number between 163 and 184 that is divisible by 2,5 and 10

N.12

Three friends read time from a clock. Tick [✓] the one who is right.

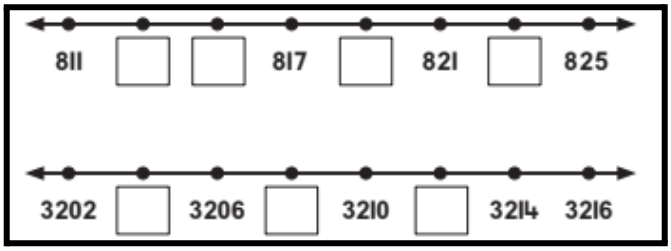
	Ajay	Vijay	Ram
	12:09 ☐	9:00 ☐	12:45 ☐

N.13

A family went to a restaurant for dinner. Help them calculate the total amount they have to pay for food.

Item	Quantity	Cost ₹	Cost P	Total Cost	Amount ₹	Amount P
Noodles	5	179	80			
Sandwich	3	55	95			
Ice-cream	8	40	20			
				TOTAL		
				DISCOUNT	50	00
				TOTAL AMOUNT		

N.14



Grade 7

Numeracy	Shape & Space	Algebra	Statistics
1. Knowledge of place values 2. Knowledge of tests of divisibility (for 2, 3, 4, 5, 6, 10) to find factors of number greater than 100 3. Understand Lowest common factor and highest common factor(numbers <100) 4. Understand integers and represent it on a number line 5. Add, subtract, multiply and divide integers (where at least one integer is negative) 6. BODMAS(with at least one bracket) 7. Read, write numbers with place value (Indian Number System) 8. Identifying place and number values 9. Even and Odd Numbers 10. Prime and Composite Numbers 11. 4 basic operations (4 digit) - Add / Subtract / Multiply / Divide (4 digit by 2 digit at least) 12. Division with and without remainder 13. Ordering numbers (Ascending , Descending , Increasing , Decreasing)inclusion of word problems 14. Expressing and representing fractions. 15. Fractions (Add / subtract) 16. Addition and Subtraction of fractions with same as well as different denominators.	1. Identify different types of geometrical figures: line, line segments, rays 2. Identify and describe parts of circle: center, radius, circumference, diameter, chord 3. Construct an angle with a given radius 4. Measuring angles 5. Parallel, perpendicular and intersecting lines 6. Properties on sides and angles of quadrilaterals 7. Identify reflective symmetry 8. Understand rotation and identify order of rotational symmetry	1. Understand sequences and identify terms in a sequence 2. Understand term to term rules and generate sequences from numerical sequences as well as patterns 3. Understand and identify a function as a relationship between single input and output. Generate outputs from a given function and identify inputs from a given output.(including integers) 4. Describing how patterns grow and find/draw how a particular pattern will look like	1. Interpreting or comparing data using bar chart and pictograph 2. Drawing pictograph and bar chart with guided examples(one is done for you) 3. Drawing frequency table with Tally marks

17. Using appropriate units for measurement and basic conversion of units (m , cm , km , l , ml) 18. Multiples 19. Factors 20. Divisibility Rules (2, 5, 10) 21. Reading the clock*12 and 24 hour) 22. Conversion of Rupees to Paise and reverse			

Numeracy

1.

Question 8: The table shows the melting points of some elements

(a) Which element has the lowest melting point?

(b) Work out the difference in melting points of bromine and mercury

(c) Work out the difference in melting points of nitrogen and silicon

Element	Melting Point
Bromine	-7°C
Caesium	29°C
Mercury	-39°C
Nitrogen	-210°C
Phosphorus	44°C
Silicon	1414°C

2.

Here are the populations of five countries in 2022

Country	Population
Chad	16,818,391
Ecuador	18,093,516
Guatemala	17,109,746
Netherlands	17,758,910
Senegal	17,223,497

(a) Arrange the countries in order of population, starting with the smallest.

3.

Write down the value of the 7 in the answer to 573 × 100

4.

Sam has completed his maths homework.
Can you spot any mistakes?

Find the highest common factor of 18 and 36

Factors of 18: 2, 3, 6, 9
Factors of 36: 2, 3, 4, 6, 9, 12, 18

HCF = 9

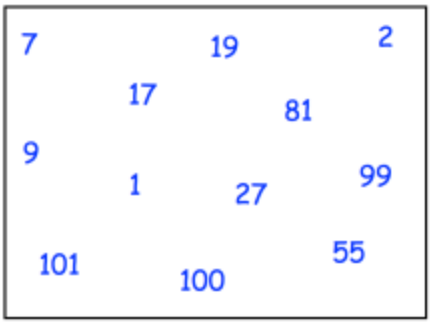
5.

James goes to a meeting that lasts 1 hour and 50 minutes.

The clock shows the time the meeting ends.

What time did the meeting begin?

6.	Will has completed his homework. Can you spot any mistakes? **Question 1** Work out $\frac{11}{15} - \frac{2}{15}$ Simplify your answer. $\frac{13}{15}$ **Question 2** There are red counters, blue counters and green counters in a bag. 5/8 of the counters are red. 1/8 of the counters are blue. What fraction of the counters are green? $\frac{6}{8} = \frac{3}{4}$
7.	A bookshelf in a classroom is 112cm long. A teacher has 30 mathematics textbooks, each 4cm wide.  (a) Can the teacher place all 30 textbooks on the shelf? (b) What is the maximum number of textbooks that will fit on the shelf?
8.	This week Harry spent $\frac{1}{2}$ of his pocket money on a ticket for a football match. He also spent $\frac{1}{8}$ of his pocket money on a scarf at the match. (a) What fraction of his pocket money has Harry spent? (b) What fraction of his pocket money does Harry have left?
9.	Matthew says 9 + 3 x 2 = 15. Is he correct? Samuel says 6 + 4 x 9 = 90. Is he correct?
10.	From the box, choose:



(a) the smallest prime number
(b) a prime number that is greater than 10
(c) an even prime number
(d) the largest prime number
(e) three numbers that are not prime

11. Here is a list of numbers

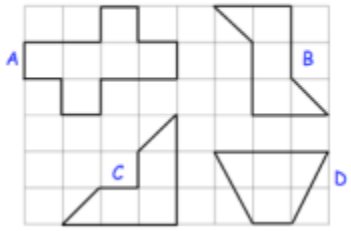
38 63 42 87 55

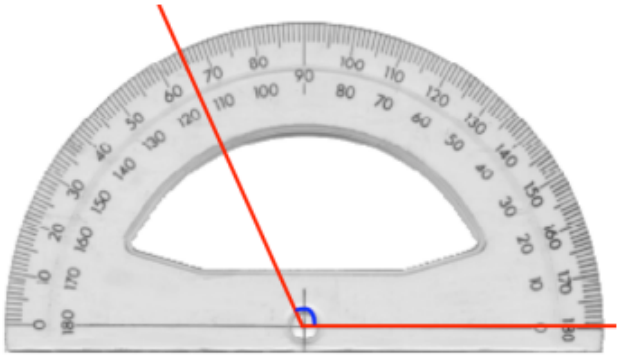
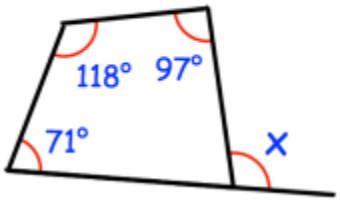
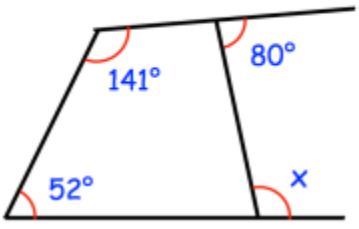
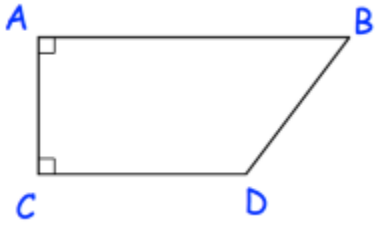
Write the numbers in the diagram below.

	Even	Odd
Multiple of 3		
Not a multiple of 3		

12.	Shown below are 4 number cards. 2 9 8 6 Using the number cards, make the largest possible 4 digit **odd** number.
13.	Rhys  5 foot 2 inches Rebecca  61 inches Who is taller? You must show your working

Geometry

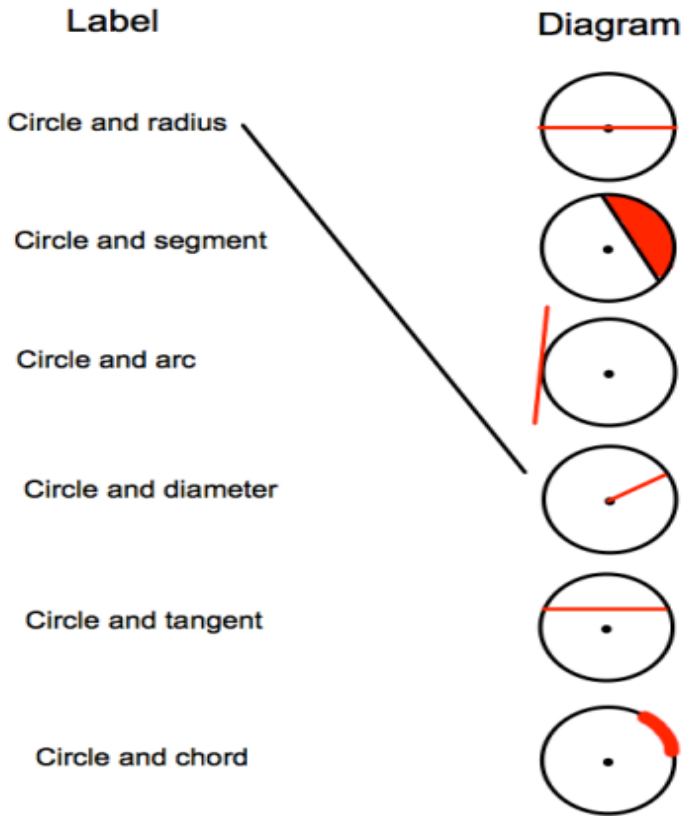
1.	Which two shapes have a line of symmetry? 

2.	Draw a shape with: (a) 1 line of symmetry (b) 2 lines of symmetry (c) 0 lines of symmetry
3.	Question 2: Here are some road signs. For each road sign, write down the order of rotational symmetry. (a)  (b)  (c)  (d)  (e) 
4.	Sophie has been asked to measure this angle. Her answer is 65° She has made a mistake. Explain what she has done wrong. 
5.	Question 6: Find the size of each missing angle. (a)  (b) 
6.	Question 1: ABCD is a trapezium. (a) Which line is parallel to AB? (b) Which line is perpendicular to CD? 

7.

Here are 6 diagrams and 6 labels.
In the diagram the centre of the circle is shown with a dot.

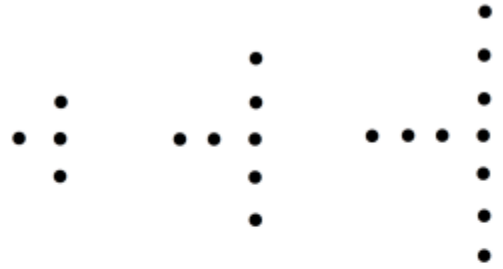
Match each diagram to its label.
One has been done for you.



Algebra

1.

Here are some patterns of dots



Pattern 1 Pattern 2 Pattern 3

(a) Continue the pattern to show pattern 4
(b) How many dots will there be in pattern 6?
(c) Which pattern will use 28 dots?
(d) Which pattern will use 43 dots?

Pattern 800 has 2401 dots.

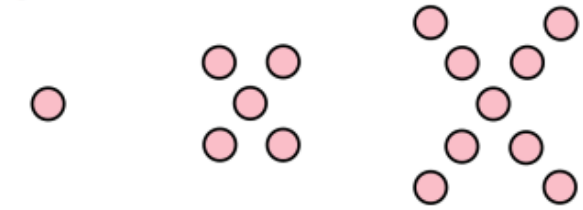
(e) How many dots will pattern 801 have?
(f) How many dots will pattern 799 have?

2.

Question 4: The diagram shows a sequence of patterns

(a) Draw pattern 4.

(b) Work out the number of circles in pattern 5.



Pattern 1 Pattern 2 Pattern 3

(c) Write down a rule for continuing the patterns.

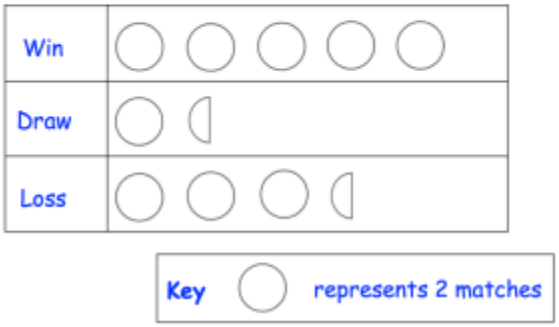
(d) Explain why you **cannot** make a pattern with exactly 66 circles.

(e) Complete this rule

Number of circles = Pattern number x ☐ - ☐

3.	Here is a function machine  (a) Work out the output when the input is 12 (b) Work out the output when the input is 35 (c) Work out the input when the output is 14

Statistics

1.	The pictogram below shows the results of Bath City over a season. Each win is worth 3 points. Each draw is worth 1 point. Each lose is worth 0 points. How many points did Bath City earn over the season? 

2.

Question 4: The bar chart shows information about the number of ice creams sold in a shop.

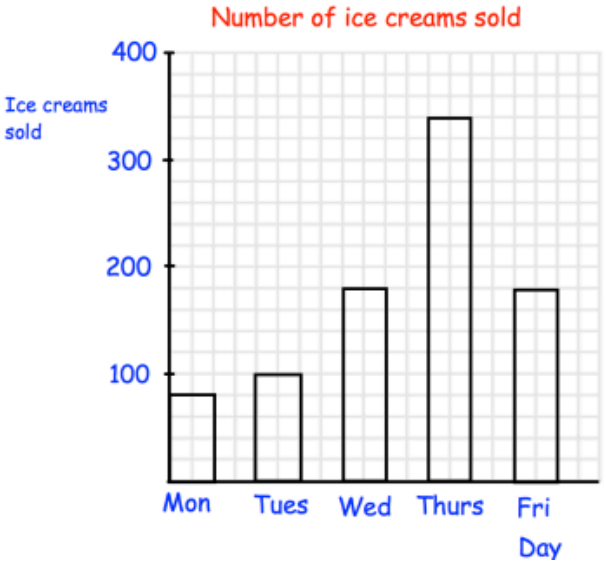
(a) How many ice creams were sold on Tuesday?

(b) On which day were the least number of ice creams sold?

(c) Why do you think so many ice creams were sold on Thursday?

(d) On which two days were the same number of ice creams sold?

(e) How many ice creams were sold in total?



3.

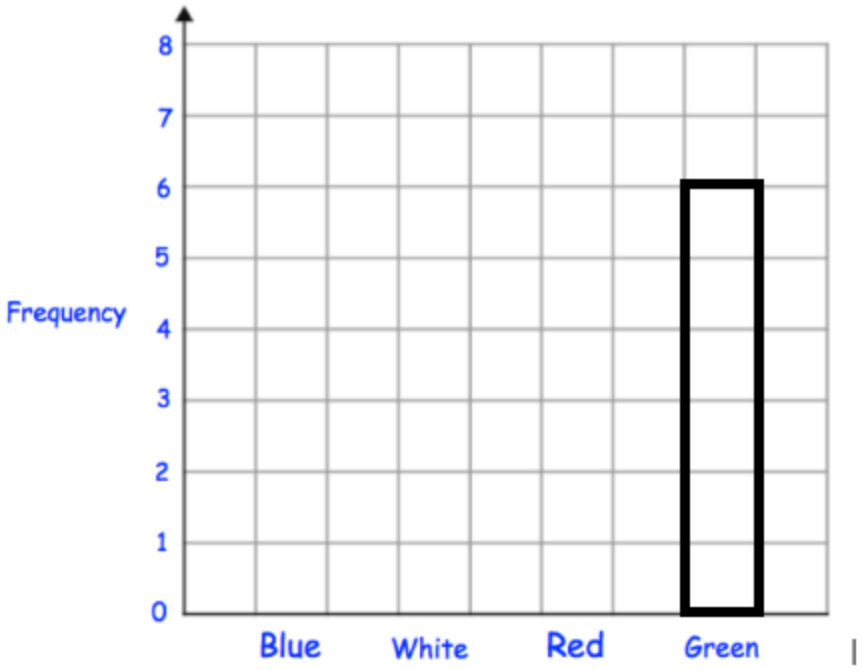
James asked his friends their favourite colour.

Green	Blue	Red	Green	Blue	Blue
Green	Red	Blue	White	Blue	Green
Red	Green	Blue	Red	Blue	Green

(a) Complete the frequency table for his results.

Colour	Tally	Frequency
Blue		
White		
Red		
Green		

(b) On the grid, draw a bar chart to show this information.



4. 4. Cardiff Rovers Football Club played 30 games in a season.

(a) Complete the tally and frequency columns.

Result	Tally	Frequency
Win	𝍸 𝍸 ||	
Draw		
Loss	𝍸 ||	