Kindergarten Mathematics

#	TOPIC	TITLE
1	Using and applying number	The numbers 1 to 5
2	Using and applying number	The numbers 6 to 9
3	The number system	Ordinal numbers 1 to 9
4	Using and applying number	Zero and counting numbers 1 to 9
5	Using and applying number	The number 10
6	Using and applying number	Numbers 11 to 20
7	Using and applying number	Using place value to order numbers up to 20
8	Reasoning	Simple addition up to the number 10
9	Reasoning	Simple addition up to the number 20
10	Calculations	Subtraction up to the number 10
11	Calculations	Subtraction by Comparison
12	Length	Compare length by using informal units of measurement
13	Weight/mass	Introducing the concept of mass
14	Lines and angles	Describing position.

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Grade 1 Mathematics

#	TOPIC	TITLE
1	Using and applying number	The number 10
2	Using and applying number	Numbers 11 to 20
3	Using and applying number	Using place value to order numbers up to 20
4	Calculations	The numbers 20 to 99
5	Calculation 10-100	Counting by 1, 2, 5, and 10 to 100
6	Reasoning	Simple addition up to the number 10
7	Reasoning	Simple addition up to the number 20
8	Calculations	Subtraction up to the number 10
9	Calculations	Subtraction by Comparison
10	Calculations	Subtraction up to the number 20 and beyond
11	Addition	Addition to 99
12	Subtraction	Subtraction up to the number 99
13	Length	Compare length by using informal units of measurement

14	Weight/mass	Introducing the concept of mass
15	Lines and angles	Describing position.
16	Time, months	Months and seasons of the year
17	Time, days of week	Days of the week
18	Time, duration	Duration
19	Time, minutes	Analogue – Telling time – minutes in the hour
20	Time, units	Units of time
21	Time, a.m. p.m.	AM and PM time
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Grade 2 Mathematics		
#	TOPIC	TITLE
1	Using and applying number	Numbers 11 to 20
2	Using and applying number	Using place value to order numbers up to 20
3	Calculations	The numbers 20 to 99
4	Calculation 10-100	Counting by 1, 2, 5, and 10 to 100
5	Calculation-larger numbers	The numbers 100 to 999
6	Reasoning	Simple addition up to the number 10
7	Reasoning	Simple addition up to the number 20
8	Calculations	Subtraction up to the number 10
9	Calculations	Subtraction by Comparison
10	Calculations	Subtraction up to the number 20 and beyond
11	Addition	Addition to 99
12	Subtraction	Subtraction up to the number 99
13	Subtraction	Subtraction with borrowing
14	Subtraction	Subtraction of two-digit numbers Involving comparison.
15	Subtraction	Subtraction up to the number 999 using the renaming method
16	Calculation-grouping	Multiplication using equal groups
17	Calculation-grouping	Multiplication using repeated addition
18	Calculation-multiplication	The multiplication sign
19	Calculation sharing/division	Strategies for division
20	Calculation-multiples	Multiples of 10 up to 100
21	Multiplication	Multiplication – important facts.
22	Length	Compare length by using informal units of measurement

23	Length	Using the metre as a formal unit to measure perimeter
24	Length	Using the formal unit of the centimetre to measure length and perimeter
25	Weight/mass	Introducing the concept of mass
26	Weight/mass	The kilogram
27	Weight/mass	The gram and net mass
28	Length	Read and calculate distances on a map using the formal unit kilometre
29	Lines and angles	Describing position.
30	Time, months	Months and seasons of the year
31	Time, days of week	Days of the week
32	Time, duration	Duration
33	Time, minutes	Analogue – Telling time – minutes in the hour
34	Time, units	Units of time
35	Time, a.m. p.m.	AM and PM time
36	Time, quarter to, past	Quarter past and quarter to
37	Time, minutes past the hour	Minutes past
38	Time, minutes to the hour	Minutes to
39	Time, digital, analogue	Comparing analogue and digital time
40	Time, digital	O'clock and half past using digital time
41	Time, analogue	O'clock and half past on the analogue clock
42	Time, 24-hour	24 hour time
43	Data	Pictograms
44	Data	Bar Charts
45	Data	Line graphs.
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Grade 3 Mathematics		
#	TOPIC	TITLE
1	Using and applying number	Numbers 11 to 20
2	Using and applying number	Using place value to order numbers up to 20
3	Calculations	The numbers 20 to 99
4	Calculation 10-100	Counting by 1, 2, 5, and 10 to 100
5	Calculation-larger numbers	The numbers 100 to 999
6	Place value	The numbers 1000 to 9999
7	Counting and numeration	The numbers 10 000 to 99 999
8	Counting and numeration	Seven digit numbers

9	Addition	Addition to 99
10	Subtraction	Subtraction up to the number 99
11	Subtraction	Subtraction with borrowing
12	Subtraction	Subtraction of two-digit numbers Involving comparison.
13	Addition	Addition up to the number 999
14	Subtraction	Subtraction up to the number 999 using the renaming method
15	Multiplication	Multiples and factors of whole numbers
16	Calculation-multiplication	The multiplication sign
17	Calculation sharing/division	Strategies for division
18	Calculation-multiples	Multiples of 10 up to 100
19	Multiplication	Multiplication – important facts.
20	Problems	Solve and record division using known facts and sharing
21	Multiplication	Multiplication using extended algorithms.
22	Division	Division with and without a remainder.
23	Division	Dividing two and three digit numbers by a single digit number.
24	Decimals	Introduction to decimals
25	Decimals	Comparing and ordering decimals to two decimal places
26	Fractions	Using fractions 1/2, 1/4, 1/8 to describe part of a whole
27	Fractions	Using fractions 1/2, 1/4, 1/8 to describe parts of a group or collection
28	Length	Compare length by using informal units of measurement
29	Length	Using the metre as a formal unit to measure perimeter
30	Length	Using the formal unit of the centimetre to measure length and perimeter
31	Weight/mass	Introducing the concept of mass
32	Weight/mass	The kilogram
33	Weight/mass	The gram and net mass
34	Capacity	Converting between volume and capacity using millilitres and litres
35	Length	Read and calculate distances on a map using the formal unit kilometre
36	Lines and angles	Describing position.
37	Time, minutes	Analogue – Telling time – minutes in the hour
38	Time, units	Units of time

39	Time, a.m. p.m.	AM and PM time
40	Time, quarter to, past	Quarter past and quarter to
41	Time, minutes past the hour	Minutes past
42	Time, minutes to the hour	Minutes to
43	Time, digital, analogue	Comparing analogue and digital time
44	Time, digital	O'clock and half past using digital time
45	Time, analogue	O'clock and half past on the analogue clock
46	2-D shapes	Recognise and name triangles
47	2-D shapes	Spatial properties of quadrilaterals
48	2-D shapes	Using the prefix to determine polygons
49	3-D shapes	Constructing models.
50	3-D shapes	Recognise and name prisms according to spatial properties
51	3-D shapes	Recognise and name pyramids according to spatial properties
52	3-D shapes	Recognise nets for prisms, pyramids, cubes and cones
53	3-D shapes	Viewing 3-D shapes.
54	Data	Pictograms
55	Data	Bar Charts
56	Data	Line graphs.
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Grade 4 Mathematics		
#	**TOPIC**	**TITLE**
1	Calculation-larger numbers	The numbers 100 to 999
2	Place value	The numbers 1000 to 9999
3	Counting and numeration	The numbers 10 000 to 99 999
4	Counting and numeration	Seven digit numbers
5	Subtraction	Subtraction with borrowing
6	Subtraction	Subtraction of two-digit numbers Involving comparison.
7	Addition	Addition up to the number 999
8	Subtraction	Subtraction up to the number 999 using the renaming method
9	Counting and numeration	Addition to 9999 and beyond
10	Subtraction	Subtraction involving four digit numbers and beyond using the renaming method.
11	Multiplication	Multiples and factors of whole numbers
12	Problems	Solve and record division using known facts and sharing

13	Multiplication	Multiplication using extended algorithms.
14	Division	Division with and without a remainder.
15	Division	Dividing two and three digit numbers by a single digit number.
16	Multiplication	Multiplication by 2 and 3 digits
17	Division	Divide whole numbers by a 2 digit divisor
18	Multiplication	Multiplying 2-digit numbers by multiple of 10
19	Multiplication	Multiplying 3 and 4-digit numbers by multiples of 100
20	Multiplication	Multiplying 2-digit numbers by 2-digit numbers
21	Division/repeat subtraction	Repeated subtraction with divisors less than 20 with no remainders
22	Division/repeat subtraction	Repeated subtraction by multiples of 10 with divisors less than 20 with no remainders
23	Division/repeat subtraction	Repeated subtraction by multiples of 2, 3 and 4 with divisors greater than 20 with no remainders
24	Division/repeat subtraction	Repeated subtraction by multiples of 1,2 and 3 with divisors less than 20 with remainders
25	Division/repeat subtraction	Repeated subtraction by multiples of 10 with divisors less than 20 with remainders
26	Division/repeat subtraction	Repeated subtraction with divisors greater than 20 with remainders as fractions
27	Division/repeat subtraction	Repeated subtraction with divisors less than 35 with some remainders
28	Division/repeat subtraction	Repeated subtraction with divisors less than 55 with dividends of 3 and 4-digits with some remainders
29	Division/repeat subtraction	Repeated subtraction with divisors greater than 50 with dividends of thousands and some remainders
30	Division/repeat subtraction	Using divide, multiply and subtraction in the bring down method
31	Decimals	Multiplying decimals by 10, 100 and 1000
32	Decimals	Dividing decimals by 10, 100 and 1000
33	Decimals	Introduction to decimals
34	Decimals	Comparing and ordering decimals to two decimal places
35	Decimals	Decimals with whole numbers 10th and 100th
36	Decimals	Adding decimals to two decimal places

37	Decimals	Subtracting decimals to two decimal places
38	Decimals	Using decimals – shopping problems
39	Decimals	Using decimals to record length
40	Fractions	Using fractions 1/2, 1/4, 1/8 to describe part of a whole
41	Fractions	Using fractions 1/2, 1/4, 1/8 to describe parts of a group or collection
42	Fractions	Comparing and ordering fractions
43	Fractions	mixed numbers (mixed numerals)
44	Fractions	Improper fractions
45	Fractions	Fractions 1/5, 1/10, 1/100
46	Fractions	Finding equivalent fractions
47	Fractions	Multiplying and dividing to obtain equivalent fractions
48	Fractions	Reducing fractions to lowest equivalent form
49	Fractions	Comparing and ordering fractions greater than (>) 1
50	Sign word problems	Solving Word Problems by recognising Sign Words
51	Equations	Problem solving strategies
52	Number problems	Problems with numbers.
53	Money	Problems involving money
54	Length	Using the metre as a formal unit to measure perimeter
55	Length	Using the formal unit of the centimetre to measure length and perimeter
56	Length	Compare and convert formal units of measurement
57	Weight/mass	The kilogram
58	Weight/mass	The gram and net mass
59	Weight/mass	The tonne – converting units and problems
60	Capacity	Converting between volume and capacity using millilitres and litres
61	Capacity	Using the cubic cm and displacement to measure volume and capacity
62	Capacity	Using the cubic cm as a standard unit of measurement for volume and capacity
63	Capacity	The relationship between the common units of capacity, the litre and the millilitre
64	Capacity	Converting between volume and capacity using kilolitres and litres
65	Capacity	Estimate, measure and compare the capacity of containers

66	Area	Introduction to the square centimetre.
67	Area	Introducing the rules for finding the area of a rectangle and a parallelogram.
68	Area	Finding the area of a triangle and other composite shapes.
69	Area	Larger areas: square metre, hectare, square kilometre.
70	Lines and angles	Describing position.
71	Lines and angles	Mapping and grid references
72	Lines and angles	Main and intermediate compass points
73	Length	Problems with length.
74	Mass	Problems with mass.
75	Area	Problems with area.
76	Volume/capacity	Problems with volume/capacity.
77	Time, digital, analogue	Comparing analogue and digital time
78	Time, digital	O'clock and half past using digital time
79	Time, analogue	O'clock and half past on the analogue clock
80	Time, 24-hour	24 hour time
81	Time zones	Time zones
82	2-D shapes	Recognise and name triangles
83	2-D shapes	Spatial properties of quadrilaterals
84	Geometry-quadrilaterals	Quadrilaterals
85	2-D shapes	Using the prefix to determine polygons
86	Tessellating 2-D shapes	Use grids to enlarge/reduce 2D shapes
87	3-D shapes	Recognise and name prisms according to spatial properties
88	3-D shapes	Recognise and name pyramids according to spatial properties
89	3-D shapes	Recognise nets for prisms, pyramids, cubes and cones
90	3-D shapes	Viewing 3-D shapes.
91	Angles	Measure and classify angles
92	Geometry-angles	Measuring angles
93	Data	Pictograms
94	Data	Bar Charts
95	Data	Line graphs.
96	Data	Pie and bar graphs.
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Grade 5 Mathematics		
#	**TOPIC**	**TITLE**

1	Place value	The numbers 1000 to 9999
2	Counting and numeration	The numbers 10 000 to 99 999
3	Counting and numeration	Seven digit numbers
4	Counting and numeration	Addition to 9999 and beyond
5	Subtraction	Subtraction involving four digit numbers and beyond using the renaming method.
6	Multiplication	Multiplying 2-digit numbers by multiple of 10
7	Multiplication	Multiplying 3 and 4-digit numbers by multiples of 100
8	Multiplication	Multiplying 2-digit numbers by 2-digit numbers
9	Multiplication	Multiplying 4-digit numbers by 3-digit numbers
10	Multiplication	Multiplying 4-digit numbers by 4-digit number
11	Division/repeat subtraction	Repeated subtraction with divisors less than 20 with no remainders
12	Division/repeat subtraction	Repeated subtraction by multiples of 10 with divisors less than 20 with no remainders
13	Division/repeat subtraction	Repeated subtraction by multiples of 2, 3 and 4 with divisors greater than 20 with no remainders
14	Division/repeat subtraction	Repeated subtraction by multiples of 1,2 and 3 with divisors less than 20 with remainders
15	Division/repeat subtraction	Repeated subtraction by multiples of 10 with divisors less than 20 with remainders
16	Division/repeat subtraction	Repeated subtraction with divisors greater than 20 with remainders as fractions
17	Division/repeat subtraction	Repeated subtraction with divisors less than 35 with some remainders
18	Division/repeat subtraction	Repeated subtraction with divisors less than 55 with dividends of 3 and 4-digits with some remainders
19	Division/repeat subtraction	Repeated subtraction with divisors greater than 50 with dividends of thousands and some remainders
20	Division/repeat subtraction	Using divide, multiply and subtraction in the bring down method
21	Decimals	Multiplying decimals by 10, 100 and 1000
22	Decimals	Dividing decimals by 10, 100 and 1000
23	Algebraic expressions	Directed numbers: addition and subtraction.

24	Algebraic expressions	Directed numbers: multiplication and division.
25	Multiplication	Multiples and factors of whole numbers
26	Rules properties	Using Order of Operation procedures (BIDMAS) with Fractions
27	Decimals	Adding decimals to two decimal places
28	Decimals	Subtracting decimals to two decimal places
29	Decimals	Using decimals – shopping problems
30	Decimals	Using decimals to record length
31	Decimals	Rounding decimals
32	Decimals	Decimals to three decimal places
33	Decimals	Adding decimals with a different number of decimal places
34	Decimals	Subtracting decimals with a different number of places
35	Fractions	Comparing and ordering fractions
36	Fractions	mixed numbers (mixed numerals)
37	Fractions	Improper fractions
38	Fractions	Fractions 1/5, 1/10, 1/100
39	Fractions	Finding equivalent fractions
40	Fractions	Multiplying and dividing to obtain equivalent fractions
41	Fractions	Reducing fractions to lowest equivalent form
42	Fractions	Comparing and ordering fractions greater than (>) 1
43	Fractions	Subtracting fractions from whole numbers
44	Fractions	Adding and subtracting fractions with the same denominator
45	Fractions	Adding and subtracting fractions with different denominators
46	Fractions	Multiplying fractions by whole numbers
47	Fractions	Fractions of whole numbers
48	Fractions	Multiplying fractions
49	Fractions	Multiplying mixed numbers (mixed numerals)
50	Fractions	Finding reciprocals of fractions and mixed numbers (mixed numerals)
51	Fractions	Dividing fractions
52	Fractions	Dividing mixed numbers (mixed numerals)
53	Length	Compare and convert formal units of measurement
54	Weight/mass	The kilogram

55	Weight/mass	The gram and net mass
56	Weight/mass	The tonne – converting units and problems
57	Capacity	Using the cubic cm and displacement to measure volume and capacity
58	Capacity	Using the cubic cm as a standard unit of measurement for volume and capacity
59	Capacity	The relationship between the common units of capacity, the litre and the millilitre
60	Capacity	Converting between volume and capacity using kilolitres and litres
61	Capacity	Estimate, measure and compare the capacity of containers
62	Area	Introducing the rules for finding the area of a rectangle and a parallelogram.
63	Area	Finding the area of a triangle and other composite shapes.
64	Area	Larger areas: square metre, hectare, square kilometre.
65	Area	Comparing and ordering areas.
66	Volume	Introduction to volume. using the cubic centimetre as a standard unit
67	Volume	Using the cubic centimetre to measure volume.
68	Volume	Introducing the formula for volume.
69	Volume	Using the cubic metre to measure volume.
70	Volume	Solving Problems about Volume – Part 1.
71	Volume	Solving Problems about Volume – Part 2.
72	Length	Problems with length.
73	Mass	Problems with mass.
74	Area	Problems with area.
75	Volume/capacity	Problems with volume/capacity.
76	Time, 24-hour	24 hour time
77	Time zones	Time zones
78	Lines and angles	Informal coordinate system
79	2-D shapes	Recognise and name triangles
80	2-D shapes	Spatial properties of quadrilaterals
81	Geometry-quadrilaterals	Quadrilaterals
82	Geometry-quadrilaterals	Classifying Quadrilaterals
83	Geometry-quadrilaterals	Using the Properties of a Parallelogram
84	Geometry-quadrilaterals	Proving a Shape is a Parallelogram
85	Geometry-quadrilaterals	Properties of the Rectangle, Square and Rhombus
86	Geometry-quadrilaterals	Properties of the Trapezium and Kite

87	Geometry-quadrilaterals	The quadrilateral family and coordinate methods in geometry
88	2-D shapes	Using the prefix to determine polygons
89	3-D shapes	Constructing models.
90	3-D shapes	Recognise and name prisms according to spatial properties
91	3-D shapes	Recognise and name pyramids according to spatial properties
92	3-D shapes	Recognise nets for prisms, pyramids, cubes and cones
93	3-D shapes	Viewing 3-D shapes.
94	Angles	Measure and classify angles
95	Geometry-angles	Measuring angles
96	Data	Pictograms
97	Data	Bar Charts
98	Data	Line graphs.
99	Data	Pie and bar graphs.
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Grade 6 Mathematics		

#	TOPIC	TITLE
1	Multiplication	Multiplying 2-digit numbers by multiple of 10
2	Multiplication	Multiplying 3 and 4-digit numbers by multiples of 100
3	Multiplication	Multiplying 2-digit numbers by 2-digit numbers
4	Multiplication	Multiplying 4-digit numbers by 3-digit numbers
5	Multiplication	Multiplying 4-digit numbers by 4-digit number
6	Division/repeat subtraction	Repeated subtraction with divisors less than 20 with no remainders
7	Division/repeat subtraction	Repeated subtraction by multiples of 10 with divisors less than 20 with no remainders
8	Division/repeat subtraction	Repeated subtraction by multiples of 2, 3 and 4 with divisors greater than 20 with no remainders
9	Division/repeat subtraction	Repeated subtraction by multiples of 1,2 and 3 with divisors less than 20 with remainders

10	Division/repeat subtraction	Repeated subtraction by multiples of 10 with divisors less than 20 with remainders
11	Division/repeat subtraction	Repeated subtraction with divisors greater than 20 with remainders as fractions
12	Division/repeat subtraction	Repeated subtraction with divisors less than 35 with some remainders
13	Division/repeat subtraction	Repeated subtraction with divisors less than 55 with dividends of 3 and 4-digits with some remainders
14	Division/repeat subtraction	Repeated subtraction with divisors greater than 50 with dividends of thousands and some remainders
15	Division/repeat subtraction	Using divide, multiply and subtraction in the bring down method
16	Decimals	Multiplying decimals by 10, 100 and 1000
17	Decimals	Dividing decimals by 10, 100 and 1000
18	Algebraic expressions	Directed numbers: addition and subtraction.
19	Algebraic expressions	Directed numbers: multiplication and division.
20	Multiplication	Multiples and factors of whole numbers
21	Rules properties	Using Order of Operation procedures (BIDMAS) with Fractions
22	Decimals	Adding decimals to two decimal places
23	Decimals	Subtracting decimals to two decimal places
24	Decimals	Using decimals – shopping problems
25	Decimals	Using decimals to record length
26	Decimals	Rounding decimals
27	Decimals	Decimals to three decimal places
28	Decimals	Adding decimals with a different number of decimal places
29	Decimals	Subtracting decimals with a different number of places
30	Decimals	Multiplying decimals by whole numbers
31	Decimals	Multiplication of decimals by decimals to two decimal places
32	Decimals	Dividing decimal fractions by whole numbers
33	Decimals	Dividing numbers by a decimal fraction
34	Fractions	Subtracting fractions from whole numbers
35	Fractions	Adding and subtracting fractions with the same denominator
36	Fractions	Adding and subtracting fractions with different denominators

37	Fractions	Multiplying fractions by whole numbers
38	Fractions	Fractions of whole numbers
39	Fractions	Multiplying fractions
40	Fractions	Multiplying mixed numbers (mixed numerals)
41	Fractions	Finding reciprocals of fractions and mixed numbers (mixed numerals)
42	Fractions	Dividing fractions
43	Fractions	Dividing mixed numbers (mixed numerals)
44	Percentages	Calculating Percentages and Fractions of Quantities
45	Algebraic expressions	Algebraic expressions.
46	Algebraic expressions	Simplifying algebraic expressions: adding like terms.
47	Algebraic expressions	Simplifying algebraic Expressions: subtracting like terms.
48	Algebraic expressions	Simplifying Algebraic expressions: combining addition and subtraction.
49	Algebraic expressions	Simplifying algebraic expressions: multiplication
50	Algebraic expressions	Simplifying algebraic expressions: division
51	Algebraic equations	Solving equations containing addition and subtraction
52	Algebraic equations	Solving equations containing multiplication and division
53	Area	Introducing the rules for finding the area of a rectangle and a parallelogram.
54	Area	Finding the area of a triangle and other composite shapes.
55	Area	Larger areas: square metre, hectare, square kilometre.
56	Area	Comparing and ordering areas.
57	Area	Area of a trapezium.
58	Area	Area of a rhombus.
59	Surface area	Surface area of a cube/rectangular prism.
60	Surface area	Surface area of a triangular/trapezoidal prism.
61	Volume	Introducing the formula for volume.
62	Volume	Using the cubic metre to measure volume.
63	Volume	Solving Problems about Volume – Part 1.
64	Volume	Solving Problems about Volume – Part 2.
65	Volume	Finding the volume of prisms
66	Geometry-quadrilaterals	Properties of the Rectangle, Square and Rhombus

67	Geometry-quadrilaterals	Properties of the Trapezium and Kite
68	Geometry-quadrilaterals	The quadrilateral family and coordinate methods in geometry
69	Lines and angles	Informal coordinate system
70	Angles	Measure and classify angles
71	Geometry-angles	Measuring angles
72	Statistics	The range.
73	Statistic-probability	The mode
74	Statistic-probability	The mean
75	Statistic-probability	The median
76	Data	Pie and bar graphs.
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Grade 7 Mathematics		

#	TOPIC	TITLE
1	Multiplication	Multiplying 4-digit numbers by 3-digit numbers
2	Multiplication	Multiplying 4-digit numbers by 4-digit number
3	Division/repeat subtraction	Repeated subtraction with divisors greater than 50 with dividends of thousands and some remainders
4	Division/repeat subtraction	Using divide, multiply and subtraction in the bring down method
5	Decimals	Multiplying decimals by 10, 100 and 1000
6	Decimals	Dividing decimals by 10, 100 and 1000
7	Algebraic expressions	Directed numbers: addition and subtraction.
8	Algebraic expressions	Directed numbers: multiplication and division.
9	Multiplication	Multiples and factors of whole numbers
10	Rules properties	Using Order of Operation procedures (BIDMAS) with Fractions
11	Decimals	Adding decimals with a different number of decimal places
12	Decimals	Subtracting decimals with a different number of places
13	Decimals	Multiplying decimals by whole numbers
14	Decimals	Multiplication of decimals by decimals to two decimal places
15	Decimals	Dividing decimal fractions by whole numbers

16	Decimals	Dividing numbers by a decimal fraction
17	Fractions	Adding and subtracting fractions with different denominators
18	Fractions	Multiplying fractions by whole numbers
19	Fractions	Fractions of whole numbers
20	Fractions	Multiplying fractions
21	Fractions	Multiplying mixed numbers (mixed numerals)
22	Fractions	Finding reciprocals of fractions and mixed numbers (mixed numerals)
23	Fractions	Dividing fractions
24	Fractions	Dividing mixed numbers (mixed numerals)
25	Percentages	Calculating Percentages and Fractions of Quantities
26	Algebraic expressions	Algebraic expressions.
27	Algebraic expressions	Simplifying algebraic expressions: adding like terms.
28	Algebraic expressions	Simplifying algebraic Expressions: subtracting like terms.
29	Algebraic expressions	Simplifying Algebraic expressions: combining addition and subtraction.
30	Algebraic expressions	Simplifying algebraic expressions: multiplication
31	Algebraic expressions	Simplifying algebraic expressions: division
32	Algebraic equations	Solving equations containing addition and subtraction
33	Algebraic equations	Solving equations containing multiplication and division
34	Algebraic equations	Solving two step equations
35	Algebraic equations	Solving equations containing binomial expressions
36	Algebraic equations	Equations involving grouping symbols.
37	Algebraic equations	Equations involving fractions.
38	Absolute value or modulus	Solving for the variable
39	Algebraic expressions	Substitution into algebraic expressions.
40	Rules for indices/exponents	Adding indices when multiplying terms with the same base
41	Rules for indices/exponents	Subtracting indices when dividing terms with the same base
42	Area	Introducing the rules for finding the area of a rectangle and a parallelogram.
43	Area	Finding the area of a triangle and other composite shapes.

44	Area	Larger areas: square metre, hectare, square kilometre.
45	Area	Comparing and ordering areas.
46	Area	Area of a trapezium.
47	Area	Area of a rhombus.
48	Surface area	Surface area of a cube/rectangular prism.
49	Surface area	Surface area of a triangular/trapezoidal prism.
50	Volume	Introducing the formula for volume.
51	Volume	Using the cubic metre to measure volume.
52	Volume	Solving Problems about Volume – Part 1.
53	Volume	Solving Problems about Volume – Part 2.
54	Volume	Finding the volume of prisms
55	Geometry-angles	Measuring angles
56	Geometry-angles	Adjacent angles
57	Geometry-angles	Complementary and supplementary angles
58	Geometry-angles	Vertically opposite angles
59	Geometry-angles	Angles at a Point.
60	Geometry-angles	Parallel Lines.
61	Geometry-problems	Additional questions involving parallel lines
62	Geometry-triangles	Angle sum of a triangle
63	Geometry-triangles	Exterior angle theorem
64	Geometry-constructions	Geometric constructions
65	Geometry	To identify collinear points, coplanar lines and points in 2 and 3 dimensions
66	Geometry-constructions	Angle bisector construction and its properties (Stage 2)
67	Geometry-constructions	Circumcentre and incentre (Stage 2)
68	Geometry-constructions	Orthocentre and centroids (Stage 2)
69	Tessellating 2-D shapes	Use grids to enlarge/reduce 2D shapes
70	Transformations	Special transformations – reflections, rotations and enlargements.
71	Translations	Transformations – reflections
72	Geometric transformations	Geometry transformations without matrices: reflection (Stage 2)
73	Geometric transformations	Geometry transformations without matrices: translation (Stage 2)
74	Geometric transformations	Geometry transformations without matrices: rotation (Stage 2)
75	Geometric transformations	Geometry transformations without matrices: dilation or enlargement (Stage 2)

76	Geometric transformations	The definition and concept of combined transformations resulting in an equivalent single transformation.
77	Statistics	The range.
78	Statistic-probability	The mode
79	Statistic-probability	The mean
80	Statistic-probability	The median
81	Statistic-probability	Calculating the median from a frequency distribution
82	Statistics – grouped data	Calculating mean, mode and median from grouped data
83	Statistics – Range and dispersion	Range as a measure of dispersion
84	Statistics – Spread	Measures of spread
85	Statistics	Frequency distribution table
86	Statistics	Relative frequency
87	Statistic-probability	Probability of Simple Events
88	Statistic-probability	Rolling a pair of dice
89	Statistic-probability	Experimental probability
90	Data	Pie and bar graphs.
91	Statistics	Frequency histograms and polygons
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Grade 8 Mathematics		

#	TOPIC	TITLE
1	Algebraic expressions	Directed numbers: addition and subtraction.
2	Algebraic expressions	Directed numbers: multiplication and division.
3	Algebra-highest common factor	Highest common factor.
4	Factors by grouping	Factors by grouping.
5	Number theory – sets	Number sets and their members
6	Scientific notation	Scientific notation with larger numbers
7	Scientific notation	Scientific notation with small numbers
8	Scientific notation	Changing scientific notation to numerals
9	Significant figures	Significant figures
10	Time, distance, speed	Average speed
11	Decimals	Multiplying decimals by whole numbers
12	Decimals	Multiplication of decimals by decimals to two decimal places
13	Decimals	Dividing decimal fractions by whole numbers

14	Decimals	Dividing numbers by a decimal fraction
15	Fractions	Multiplying fractions
16	Fractions	Multiplying mixed numbers (mixed numerals)
17	Fractions	Finding reciprocals of fractions and mixed numbers (mixed numerals)
18	Fractions	Dividing fractions
19	Fractions	Dividing mixed numbers (mixed numerals)
20	Percentages	Introduction to percentages, including relating common fractions to percentages
21	Percentages	Changing fractions and decimals to percentages using tenths and hundredths
22	Percentages	Changing percentages to fractions and decimals
23	Percentages	One quantity as a percentage of another
24	Algebraic expressions	Algebraic expressions.
25	Algebraic expressions	Simplifying algebraic expressions: adding like terms.
26	Algebraic expressions	Simplifying algebraic Expressions: subtracting like terms.
27	Algebraic expressions	Simplifying Algebraic expressions: combining addition and subtraction.
28	Algebraic expressions	Simplifying algebraic expressions: multiplication
29	Algebraic expressions	Simplifying algebraic expressions: division
30	Algebraic expressions	Expanding algebraic expressions: multiplication
31	Algebraic expressions	Expanding algebraic expressions: negative multiplier
32	Algebraic expressions	Expanding and simplifying algebraic expressions
33	Algebraic equations	Solving equations containing addition and subtraction
34	Algebraic equations	Solving equations containing multiplication and division
35	Algebraic equations	Solving two step equations
36	Algebraic equations	Solving equations containing binomial expressions
37	Algebraic equations	Equations involving grouping symbols.
38	Algebraic equations	Equations involving fractions.
39	Absolute value or modulus	Solving for the variable
40	Simultaneous equns	Simultaneous equations
41	Simultaneous equns	Elimination method
42	Simultaneous equns	Elimination method part 2

43	Simultaneous equns	Applications of simultaneous equations
44	Algebra-factorising	Simplifying easy algebraic fractions.
45	Factorisation	Factorisation of algebraic fractions including binomials.
46	Factorising	Expansions leading to the difference of two squares
47	Common fact and diff	Common factor and the difference of two squares
48	Algebraic expressions	Substitution into algebraic expressions.
49	Algebra- formulae	Equations resulting from substitution into formulae.
50	Algebra- formulae	Changing the subject of the formula.
51	Sequences and Series	General sequences.
52	Sequences and Series	Finding Tn given Sn.
53	Arithmetic Progression	The arithmetic progression
54	Area	Area of a trapezium.
55	Area	Area of a rhombus.
56	Area	Area of a circle.
57	Area	Area of regular polygons and composite figures.
58	Surface area	Surface area of a cube/rectangular prism.
59	Surface area	Surface area of a triangular/trapezoidal prism.
60	Surface area	Surface area of a cylinder and sphere.
61	Surface area	Surface area of pyramids
62	Surface area	Surface area of cones
63	Surface area	Surface area of composite solids
64	Volume	Finding the volume of prisms
65	Volume	Volume of a cylinder and sphere.
66	Volume	Volume of pyramids and cones.
67	Volume	Composite solids.
68	Geometry-angles	Adjacent angles
69	Geometry-angles	Complementary and supplementary angles
70	Geometry-angles	Vertically opposite angles
71	Geometry-angles	Angles at a Point.
72	Geometry-angles	Parallel Lines.
73	Geometry-problems	Additional questions involving parallel lines
74	Geometry-triangles	Angle sum of a triangle
75	Geometry-triangles	Exterior angle theorem
76	Geometry – angles	To determine angle labelling rules, naming angles according to size, angle bisector properties and related algebra

77	Geometry problems	More difficult exercises involving parallel lines
78	Geometry-polygons	Angles of regular polygons
79	Trigonometry-compass	Bearings – the compass.
80	Trig complementary angles	Complementary angle results.
81	Geometry-constructions	Geometric constructions
82	Geometry	To identify collinear points, coplanar lines and points in 2 and 3 dimensions
83	Geometry-constructions	Angle bisector construction and its properties (Stage 2)
84	Geometry-constructions	Circumcentre and incentre (Stage 2)
85	Geometry-constructions	Orthocentre and centroids (Stage 2)
86	Geometry-locus	Constructions and loci – single condition
87	Geometry-locus	Constructions and loci – multiple conditions
88	Transformations	Special transformations – reflections, rotations and enlargements.
89	Translations	Transformations – reflections
90	Geometric transformations	Geometry transformations without matrices: reflection (Stage 2)
91	Geometric transformations	Geometry transformations without matrices: translation (Stage 2)
92	Geometric transformations	Geometry transformations without matrices: rotation (Stage 2)
93	Geometric transformations	Geometry transformations without matrices: dilation or enlargement (Stage 2)
94	Geometric transformations	The definition and concept of combined transformations resulting in an equivalent single transformation.
95	Pythagoras	Find the hypotenuse
96	Pythagoras	Pythagorean triples
97	Pythagoras	Find the hypotenuse Part 2
98	Pythagoras	Calculating a leg of a right-angled triangle
99	Pythagoras	Proofs of Pythagoras theorem
100	Statistics	The range.
101	Statistic-probability	The mode
102	Statistic-probability	The mean
103	Statistic-probability	The median
104	Statistic-probability	Calculating the median from a frequency distribution
105	Statistics – grouped data	Calculating mean, mode and median from grouped data
106	Statistics – Range and dispersion	Range as a measure of dispersion
107	Statistics – Spread	Measures of spread

108	Statistics	Frequency distribution table
109	Statistics	Relative frequency
110	Statistic-probability	Probability of Simple Events
111	Statistic-probability	Rolling a pair of dice
112	Statistic-probability	Experimental probability
113	Statistic-probability	Tree diagrams – not depending on previous outcomes
114	Statistic-probability	Tree diagrams – depending on previous outcomes
115	Statistics	Frequency histograms and polygons
116	Statistic-probability	Cumulative frequency
117	Statistics – Interquartile range	Measures of spread: the interquartile range
118	Statistics	Stem and Leaf Plots along with Box and Whisker Plots
119	Statistics	Scatter Diagrams
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High School - Number and Quantity Mathematics		
#	**TOPIC**	**TITLE**
1	Rules properties	Using Order of Operation procedures (BIDMAS) with Fractions
2	Number theory – equations	Transformations that produce equivalent equations
3	Decimals	Multiplying decimals by whole numbers
4	Decimals	Multiplication of decimals by decimals to two decimal places
5	Decimals	Dividing decimal fractions by whole numbers
6	Decimals	Dividing numbers by a decimal fraction
7	Fractions	Multiplying fractions
8	Fractions	Multiplying mixed numbers (mixed numerals)
9	Fractions	Finding reciprocals of fractions and mixed numbers (mixed numerals)
10	Fractions	Dividing fractions
11	Fractions	Dividing mixed numbers (mixed numerals)
12	Percentages	Introduction to percentages, including relating common fractions to percentages
13	Percentages	Changing fractions and decimals to percentages using tenths and hundredths
14	Percentages	Changing percentages to fractions and decimals

15	Percentages	One quantity as a percentage of another
16	Sequences and Series-Compound interest	Compound interest
17	Scientific notation	Scientific notation with larger numbers
18	Scientific notation	Scientific notation with small numbers
19	Scientific notation	Changing scientific notation to numerals
20	Significant figures	Significant figures
21	Number theory – sets	Number sets and their members
22	Number theory – operations	Properties of real numbers using addition and multiplication
23	Rules for indices/exponents	Adding indices when multiplying terms with the same base
24	Rules for indices/exponents	Subtracting indices when dividing terms with the same base
25	Rules for indices/exponents	Multiplying indices when raising a power to a power
26	Rules for indices/exponents	Multiplying indices when raising to more than one term
27	Rules for indices/exponents	Terms raised to the power of zero
28	Rules for indices/exponents	Negative Indices
29	Fractional indices/exponents	Fractional indices
30	Fractional indices/exponents	Complex fractions as indices
31	Exponential function	The exponential function.
32	Log functions	Logarithmic functions.
33	Logarithms-Power of 2	Powers of 2.
34	Logarithms-Equations and logs	Equations of type log x to the base 3 = 4.
35	Logarithms-Equations and logs	Equations of type log 32 to the base x = 5.
36	Logarithms-Log laws	Laws of logarithms.
37	Logarithms-Log laws expansion	Using the log laws to expand logarithmic expressions.
38	Logarithms-Log laws simplifying	Using the log laws to simplify expressions involving logarithms.
39	Logarithms-Log laws numbers	Using the log laws to find the logarithms of numbers.
40	Logarithms-Equations and logs	Equations involving logarithms.
41	Logarithms-Logs to solve equations	Using logarithms to solve equations.
42	Logarithms-Change base formula	Change of base formula
43	Logarithms-Graph-log curve	The graph of the logarithmic curve
44	Logarithms-Log curves	Working with log curves.
45	Surds	Introducing surds
46	Surds	Some rules for the operations with surds
47	Surds	Simplifying surds
48	Surds	Creating entire surds

49	Surds	Adding and subtracting like surds
50	Surds	Expanding surds
51	Surds	Conjugate binomials with surds
52	Surds	Rationalising the denominator
53	Surds	Rationalising binomial denominators
54	Graphing roots	Graphing irrational roots
55	Surds	Binomial expansions
56	Graphing binomials	Binomial products.
57	Graphing binomials	Binomial products with negative multiplier
58	Graphing binomials	Binomial products [non-monic].
59	Squaring binomial	Squaring a binomial. [monic]
60	Squaring binomial	Squaring a binomial [non-monic].
61	Statistic-probability	Binomial Theorem – Pascal's Triangle
62	Matrices	Basic concepts – Matrices
63	Matrices	Addition and subtraction of matrices
64	Matrices	Scalar matrix multiplication
65	Matrices	Multiplication of one matrix by another matrix
66	Matrices	Translation in the number plane
67	Matrices	Translation by matrix multiplication
68	Simultaneous equations	Number of solutions (Stage 2)
69	Vectors	2 vector addition in 2 and 3D (stage 2)
70	Linear systems	Optimal solutions (Stage 2) – Vectors
71	Linear systems	Linear systems with matrices (Stage 2)
72	Linear systems	Row-echelon form (Stage 2)
73	Linear systems	Gauss Jordan elimination method (Stage 2)
74	Vectors	Vectors
75	Logarithms-Complex numbers	Imaginary numbers and standard form
76	Logarithms-Complex numbers	Complex numbers – multiplication and division
77	Logarithms-Complex numbers	Plotting complex number and graphical representation
78	Logarithms-Complex numbers	Absolute value
79	Logarithms-Complex numbers	Trigonometric form of a complex number
80	Logarithms-Complex numbers	Multiplication and division of complex numbers in trig form (Stage 2)
81	Logarithms-Complex numbers	DeMoivre's theorem (Stage 2)
82	Logarithms-Complex numbers	The nth root of real and complex numbers (Stage 2)
83	Logarithms-Complex numbers	Fundamental theorem of algebra (Stage 2)
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High School - Algebra Mathematics

#	TOPIC	TITLE
1	Algebraic expressions	Algebraic expressions.
2	Algebraic expressions	Simplifying algebraic expressions: adding like terms.
3	Algebraic expressions	Simplifying algebraic Expressions: subtracting like terms.
4	Algebraic expressions	Simplifying Algebraic expressions: combining addition and subtraction.
5	Algebraic expressions	Simplifying algebraic expressions: multiplication
6	Algebraic expressions	Simplifying algebraic expressions: division
7	Algebraic expressions	Expanding algebraic expressions: multiplication
8	Algebraic expressions	Expanding algebraic expressions: negative multiplier
9	Algebraic expressions	Expanding and simplifying algebraic expressions
10	Algebraic fractions	Simplifying algebraic fractions using the index laws.
11	Algebra-negative indices	Algebraic fractions resulting in negative indices.
12	Algebraic fractions-binomial	Cancelling binomial factors in algebraic fractions.
13	Absolute value or modulus	Simplifying absolute values
14	Algebraic expressions-products	Products in simplification of algebraic expressions
15	Algebraic expressions-larger expansions	Algebraic Expressions – Larger expansions.
16	Algebraic fractions	Simplifying algebraic fractions.
17	Algebraic equations	Solving equations containing addition and subtraction
18	Algebraic equations	Solving equations containing multiplication and division
19	Algebraic equations	Solving two step equations
20	Algebraic equations	Solving equations containing binomial expressions
21	Algebraic equations	Equations involving grouping symbols.
22	Algebraic equations	Equations involving fractions.
23	Absolute value or modulus	Solving for the variable
24	Simultaneous equns	Simultaneous equations
25	Simultaneous equns	Elimination method
26	Simultaneous equns	Elimination method part 2

27	Simultaneous equns	Applications of simultaneous equations
28	Algebra-factorising	Simplifying easy algebraic fractions.
29	Factorisation	Factorisation of algebraic fractions including binomials.
30	Factorising	Expansions leading to the difference of two squares
31	Common fact and diff	Common factor and the difference of two squares
32	Factorising quads	Factorising quadratic trinomials [monic] – Case 2.
33	Factorising quads	Factorising quadratic trinomials [monic] – Case 3.
34	Factorising quads	Factorising quadratic trinomials [monic] – Case 4.
35	Factorising quads	Factorisation of non-monic quadratic trinomials
36	Factorising quads	Factorisation of non-monic quadratic trinomials – moon method
37	Algebraic expressions	Substitution into algebraic expressions.
38	Algebra- formulae	Equations resulting from substitution into formulae.
39	Algebra- formulae	Changing the subject of the formula.
40	Algebra-inequalities	Solving Inequalities.
41	Absolute value or modulus	Solving and graphing inequalities
42	Co-ordinate Geometry-Inequalities	Inequalities on the number plane.
43	Absolute value equations	Absolute value equations
44	Difference of 2 squares	Difference of two squares
45	Quadratic trinomials	Quadratic trinomials [monic] – Case 1.
46	Quadratic equations	Introduction to quadratic equations.
47	Quadratic equations	Quadratic equations with factorisation.
48	Quadratic equations	Solving quadratic equations.
49	Quadratic equations	Completing the square
50	Quadratic equations	Solving quadratic equations by completing the square
51	Quadratic equations	The quadratic formula
52	Quadratic equations	Problem solving with quadratic equations
53	Quadratic equations	Solving simultaneous quadratic equations graphically
54	Functions and graphs	Quadratic polynomials of the form y = ax. + bx + c.
55	Functions and graphs	Graphing perfect squares: y=(a-x) squared
56	Coordinate geometry	Solve by graphing

57	Graphing-polynomials	Graphing complex polynomials: quadratics with no real roots
58	Graphing-polynomials	General equation of a circle: determine and graph the equation
59	Graphing-cubic curves	Graphing cubic curves
60	Graphs, polynomials	Graphs of polynomials
61	Algebra-polynomials	Introduction to polynomials
62	Algebra-polynomials	The sum, difference and product of two polynomials.
63	Algebra-polynomials	Polynomials and long division.
64	Polynomial equations	Polynomial equations
65	Factor theorem	The factor theorem
66	Factor theorem	More on the factor theorem
67	Factor theorem	Complete factorisations using the factor theorem
68	Remainder theorem	The remainder theorem.
69	Remainder theorem	More on remainder theorem
70	Sum/diff 2 cubes	Sum and difference of two cubes.
71	Roots quad equations	Sum and product of roots of quadratic equations
72	Roots quad equations	Sum and product of roots of cubic and quartic equations
73	Approx roots	Methods of approximating roots
74	Logic	Inductive and deductive reasoning
75	Logic	Definition and use of counter examples
76	Logic	Indirect proofs
77	Logic	Mathematical induction
78	Logic	Conditional statements (converse, inverse and contrapositive) (Stage 2)
79	Sequences and Series	General sequences.
80	Sequences and Series	Finding Tn given Sn.
81	Arithmetic Progression	The arithmetic progression
82	Arithmetic Progression	Finding the position of a term in an A.P.
83	Arithmetic Progression	Given two terms of A.P., find the sequence.
84	Arithmetic Progression	Arithmetic means
85	Arithmetic Progression	The sum to n terms of an A.P.
86	Geometric Progression	The geometric progression.
87	Geometric Progression	Finding the position of a term in a G.P.
88	Geometric Progression	Given two terms of G.P., find the sequence.
89	Sequences and Series-Geometric means	Geometric means.
90	Sequences and Series-Sum of gp	The sum to n terms of a G.P.
91	Sequences and Series-Sigma notation	Sigma notation

92	Sequences and Series-Sum-infinity	Limiting sum or sum to infinity.
93	Sequences and Series-Recurring decimal infinity	Recurring decimals and the infinite G.P.
94	Sequences and Series-Superannuation	Superannuation.
95	Sequences and Series-Time payments	Time payments.
96	Sequences and Series	Applications of arithmetic sequences
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High School - Functions Mathematics		
#	**TOPIC**	**TITLE**
1	Functions	Definition, domain and range
2	Functions	Notation and evaluations
3	Functions	More on domain and range
4	Functions	Domain and range from graphical representations
5	Functions	Evaluating and graphing piecewise functions
6	Functions	Functions combinations
7	Functions	Composition of functions
8	Functions	Inverse functions
9	Functions	Rational functions Part 1
10	Functions	Rational functions Part 2
11	Functions	Parametric equations (Stage 2)
12	Functions	Polynomial addition etc in combining and simplifying functions (Stage 2)
13	Functions	Parametric functions (Stage 2)
14	Difference of 2 squares	Difference of two squares
15	Quadratic trinomials	Quadratic trinomials [monic] – Case 1.
16	Quadratic equations	Introduction to quadratic equations.
17	Quadratic equations	Quadratic equations with factorisation.
18	Quadratic equations	Solving quadratic equations.
19	Quadratic equations	Completing the square
20	Quadratic equations	Solving quadratic equations by completing the square
21	Quadratic equations	The quadratic formula
22	Quadratic equations	Problem solving with quadratic equations
23	Quadratic equations	Solving simultaneous quadratic equations graphically
24	Functions and graphs	Quadratic polynomials of the form y = ax. + bx + c.
25	Functions and graphs	Graphing perfect squares: y=(a-x) squared

26	Coordinate geometry	Solve by graphing
27	Graphing-polynomials	Graphing complex polynomials: quadratics with no real roots
28	Graphing-polynomials	General equation of a circle: determine and graph the equation
29	Graphing-cubic curves	Graphing cubic curves
30	Graphs, polynomials	Graphs of polynomials
31	Trig-reciprocal ratios	Reciprocal ratios.
32	Trig identities	Trigonometric identities
33	Trig larger angles	Angles of any magnitude
34	Trig larger angles	Trigonometric ratios of 0°, 90°, 180°, 270° and 360°
35	Graph sine	Graphing the trigonometric ratios – I Sine curve.
36	Graph cosine	Graphing the trigonometric ratios – II Cosine curve.
37	Graphs tan curve	Graphing the trigonometric ratios – III Tangent curve.
38	Graph reciprocals	Graphing the trigonometric ratios – IV Reciprocal ratios.
39	Trig larger angles	Using one ratio to find another.
40	Trig equations	Solving trigonometric equations – Type I.
41	Trig equations	Solving trigonometric equations – Type II.
42	Trig equations	Solving trigonometric equations – Type III.
43	Polar coordinates	Plotting polar coordinates and converting polar to rectangular
44	Polar coordinates	Converting rectangular coordinates to polar form
45	Polar coordinates	Write and graph points in polar form with negative vectors (Stage 2)
46	Trigonometry	Sin(A+B) etc sum and difference identities (Stage 2)
47	Trigonometry	Double angle formulas (Stage 2)
48	Trigonometry	Half angle identities (Stage 2)
49	Trigonometry	t Formulas (Stage 2)
50	Calculus=1st prin	Differentiation from first principles.
51	Calculus=1st prin	Differentiation of y = x to the power of n.
52	Calculus-differential, integ	Meaning of dy over dx – equations of tangents and normals.
53	Calculus-differential, integ	Function of a function rule, product rule, quotient rule.
54	Calculus-differential, integ	Increasing, decreasing and stationary functions.

55	Calculus	First Derivative – turning points and curve sketching
56	Calculus-2nd derivative	The second derivative – concavity.
57	Calculus – Curve sketching	Curve sketching
58	Calculus – Maxima minima	Practical applications of maxima and minima
59	Calculus	Limits
60	Calculus – Integration	Integration – anti-differentiation, primitive function
61	Calculus – Computation area	Computation of an area
62	Calculus – Computation volumes	Computation of volumes of revolution
63	Calculus – Trapezoidal and Simpson's rules	The Trapezium rule and Simpson's rule
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High School - Geometry Mathematics		
#	**TOPIC**	**TITLE**
1	Transformations	Special transformations – reflections, rotations and enlargements.
2	Translations	Transformations – reflections
3	Geometric transformations	Geometry transformations without matrices: reflection (Stage 2)
4	Geometric transformations	Geometry transformations without matrices: translation (Stage 2)
5	Geometric transformations	Geometry transformations without matrices: rotation (Stage 2)
6	Geometric transformations	Geometry transformations without matrices: dilation or enlargement (Stage 2)
7	Geometric transformations	The definition and concept of combined transformations resulting in an equivalent single transformation.
8	Geometry-quadrilaterals	Midsegments of Triangles
9	Geometry-congruence	Congruent triangles, Test 1 and 2
10	Geometry-congruence	Congruent triangles, Test 3 and 4
11	Geometry-congruence	Proofs and congruent triangles.
12	Overlapping triangles	Examples involving overlapping triangles
13	Special triangles	Special triangles
14	Similar triangles	Similar triangles
15	Similar triangles	Using similar triangles to calculate lengths
16	Geometry-constructions	Geometric constructions
17	Geometry	To identify collinear points, coplanar lines and points in 2 and 3 dimensions

18	Geometry-constructions	Angle bisector construction and its properties (Stage 2)
19	Geometry-constructions	Circumcentre and incentre (Stage 2)
20	Geometry-constructions	Orthocentre and centroids (Stage 2)
21	Geometry-locus	Constructions and loci – single condition
22	Geometry-locus	Constructions and loci – multiple conditions
23	Area	Area of a circle.
24	Area	Area of regular polygons and composite figures.
25	Surface area	Surface area of a cube/rectangular prism.
26	Surface area	Surface area of a triangular/trapezoidal prism.
27	Surface area	Surface area of a cylinder and sphere.
28	Surface area	Surface area of pyramids
29	Surface area	Surface area of cones
30	Surface area	Surface area of composite solids
31	Volume	Finding the volume of prisms
32	Volume	Volume of a cylinder and sphere.
33	Volume	Volume of pyramids and cones.
34	Volume	Composite solids.
35	Geometry – triangles	Triangle inequality theorem
36	Coordinate Geometry-the plane	Distance formula.
37	Coordinate Geometry-midpoint, slope	Mid-point formula
38	Coordinate Geometry-gradient	Gradient
39	Coordinate Geometry-gradient	Gradient formula.
40	Coordinate Geometry-straight line	The straight line.
41	Coordinate Geometry-slope, etc.	Lines through the origin.
42	Coordinate Geometry-equation of line	General form of a line and the x and y Intercepts.
43	Coordinate Geometry-intercept	Slope intercept form of a line.
44	Coordinate Geometry-point slope	Point slope form of a line
45	Co-ordinate Geometry-Two point formula	Two point formula: equation of a line which joins a pair of points.
46	Co-ordinate Geometry-Intercept form	Intercept form of a straight line: find the equation when given x and y
47	Co-ordinate Geometry-Parallel lines equations	Parallel lines: identify equation of a line parallel to another
48	Co-ordinate Geometry-Perpendicular lines	Perpendicular lines.
49	Co-ordinate Geometry-Theorems	Perpendicular distance
50	Co-ordinate Geometry-Theorems	Line through intersection of two given lines
51	Co-ordinate Geometry-Theorems	Angles between two lines
52	Co-ordinate Geometry-Theorems	Internal and external division of an interval

53	Pythagoras	Find the hypotenuse
54	Pythagoras	Pythagorean triples
55	Pythagoras	Find the hypotenuse Part 2
56	Pythagoras	Calculating a leg of a right-angled triangle
57	Pythagoras	Proofs of Pythagoras theorem
58	Trigonometry-ratios	Trigonometric ratios.
59	Trigonometry-ratios	Using the calculator.
60	Trigonometry-ratios	Using the trigonometric ratios to find unknown length. [Case 1 Sine].
61	Trigonometry-ratios	Using the trigonometric ratios to find unknown length. [Case 2 Cosine].
62	Trigonometry-ratios	Using the trigonometric ratios to find unknown length. [Case 3 Tangent Ratio].
63	Trigonometry-ratios	Unknown in the denominator. [Case 4].
64	Trigonometry-elevation	Angles of elevation and depression.
65	Trigonometry-practical	Trigonometric ratios in practical situations.
66	Trigonometry-ratios	Using the calculator to find an angle given a trigonometric ratio.
67	Trigonometry- ratios	Using the trigonometric ratios to find an angle in a right-angled triangle.
68	Trigonometry-exact ratios	Trigonometric ratios of 30., 45. and 60. – exact ratios.
69	Trigonometry-cosine rule	The cosine rule to find an unknown side. [Case 1 SAS].
70	Trigonometry-cosine rule	The cosine rule to find an unknown angle. [Case 2 SSS].
71	Trigonometry-sine rule	The sine rule to find an unknown side. Case 1.
72	Trigonometry-sine rule	The sine rule to find an unknown angle. Case 2.
73	Trigonometry-areas	The area formula
74	Trig-reciprocal ratios	Reciprocal ratios.
75	Trig identities	Trigonometric identities
76	Trig larger angles	Angles of any magnitude
77	Trig larger angles	Trigonometric ratios of 0°, 90°, 180°, 270° and 360°
78	Graph sine	Graphing the trigonometric ratios – I Sine curve.
79	Graph cosine	Graphing the trigonometric ratios – II Cosine curve.
80	Graphs tan curve	Graphing the trigonometric ratios – III Tangent curve.
81	Graph reciprocals	Graphing the trigonometric ratios – IV Reciprocal ratios.

82	Trig larger angles	Using one ratio to find another.
83	Trig equations	Solving trigonometric equations – Type I.
84	Trig equations	Solving trigonometric equations – Type II.
85	Trig equations	Solving trigonometric equations – Type III.
86	Polar coordinates	Plotting polar coordinates and converting polar to rectangular
87	Polar coordinates	Converting rectangular coordinates to polar form
88	Polar coordinates	Write and graph points in polar form with negative vectors (Stage 2)
89	Trigonometry	Sin(A+B) etc sum and difference identities (Stage 2)
90	Trigonometry	Double angle formulas (Stage 2)
91	Trigonometry	Half angle identities (Stage 2)
92	Trigonometry	t Formulas (Stage 2)
93	Circle Geometry	Theorem – Equal arcs on circles of equal radii subtend equal angles at the centre. Theorem – Equal angles at the centre of a circle on equal arcs.
94	Circle Geometry	Theorem – The perpendicular from the centre of a circle to a chord bisects the chord. Theorem – The line from the centre of a circle to the mid-point of the chord is perpendicular to the chord.
95	Circle Geometry	Theorem – Equal chords in equal circles are equidistant from the centres. Theorem – Chords in a circle which are equidistant from the centre are equal.
96	Circle Geometry	Theorem – The angle at the centre of a circle is double the angle at the circumference standing on the same arc.
97	Circle Geometry	Theorem – Angles in the same segment of a circle are equal.
98	Circle Geometry	Theorem – The angle of a semi-circle is a right angle.
99	Circle Geometry	Theorem – The opposite angles of a cyclic quadrilateral are supplementary.
100	Circle Geometry	Theorem – The exterior angle at a vertex of a cyclic quadrilateral equals the interior opposite angle.
101	Circle Geometry	Theorem – The tangent to a circle is perpendicular to the radius drawn to it at the point of contact.
102	Circle Geometry	Theorem – Tangents to a circle from an external point are equal.

103	Circle Geometry	Theorem – The angle between a tangent and a chord through the point of contact is equal to the angle in the alternate segment.
104	Circle Geometry-chords	Theorem – The products of the intercepts of two intersecting chords are equal.
105	Circle Geometry-tangents	Theorem – The square of the length of the tangent from an external point is equal to the product of the intercepts of the secant passing through this point. [Including Alternate Proof]
106	Circle Geometry-cyclic quads	Theorem – If the opposite angles in a quadrilateral are supplementary then the quadrilateral is cyclic.
107	Circle Geometry-subtending	Theorem – If an interval subtends equal angles at two points on the same side of it, then the end points of the interval and the two points are concyclic.
108	Circle Geometry	Theorem – When circles touch, the line of the centres passes through the point of contact.
109	Circle Geometry-non-collinear	Theorem – Any three non-collinear points lie on a unique circle whose centre is the point of concurrency of the perpendicular bisectors of the intervals joining these points.
110	Geometry-circles	The equation of a circle: to find radii of circles
111	Geometry-circles	The semicircle: to select the equation given the semi circle and vice versa
112	Geometry-parabola	The parabola: to describe properties of a parabola from its equation
113	Rect.hyperbola	The rectangular hyperbola.
114	Conic sections	Introduction to conic sections and their general equation
115	Conic sections	The parabola x. = 4ay
116	Conic sections	Circles
117	Conic sections	Ellipses
118	Conic sections	Hyperbola
119	Matrices	Basic concepts – Matrices
120	Matrices	Addition and subtraction of matrices
121	Matrices	Scalar matrix multiplication
122	Matrices	Multiplication of one matrix by another matrix
123	Matrices	Translation in the number plane
124	Matrices	Translation by matrix multiplication
125	Simultaneous equations	Number of solutions (Stage 2)

126	Vectors	2 vector addition in 2 and 3D (stage 2)
127	Linear systems	Optimal solutions (Stage 2) – Vectors
128	Linear systems	Linear systems with matrices (Stage 2)
129	Linear systems	Row-echelon form (Stage 2)
130	Linear systems	Gauss Jordan elimination method (Stage 2)
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High School - Statistics and Probability Mathematics

#	TOPIC	TITLE
1	Statistics	Frequency distribution table
2	Statistics	Frequency histograms and polygons
3	Statistics	Relative frequency
4	Statistics	The range.
5	Statistic-probability	The mode
6	Statistic-probability	The mean
7	Statistic-probability	The median
8	Statistic-probability	Cumulative frequency
9	Statistic-probability	Calculating the median from a frequency distribution
10	Statistic-probability	Probability of Simple Events
11	Statistic-probability	Rolling a pair of dice
12	Statistic-probability	Experimental probability
13	Statistic-probability	Tree diagrams – not depending on previous outcomes
14	Statistic-probability	Tree diagrams – depending on previous outcomes
15	Statistic-probability	The complementary result ..
16	Statistic-probability	P[A or B] When A and B are both mutually and NOT mutually exclusive
17	Statistic-probability	Binomial probabilities using the Binomial Theorem
18	Statistic-probability	Counting techniques and ordered selections – permutations
19	Statistic-probability	Unordered selections – combinations
20	Statistics – grouped data	Calculating mean, mode and median from grouped data
21	Statistics – Range and dispersion	Range as a measure of dispersion
22	Statistics – Spread	Measures of spread
23	Statistics – Standard deviation	Standard deviation applications
24	Statistics – Standard deviation	Normal distribution
25	Statistics – Interquartile range	Measures of spread: the interquartile range

26	Statistics	Stem and Leaf Plots along with Box and Whisker Plots
27	Statistics	Scatter Diagrams
28	Sequences and Series	General sequences.
29	Sequences and Series	Finding Tn given Sn.
30	Arithmetic Progression	The arithmetic progression
31	Arithmetic Progression	Finding the position of a term in an A.P.
32	Arithmetic Progression	Given two terms of A.P., find the sequence.
33	Arithmetic Progression	Arithmetic means
34	Arithmetic Progression	The sum to n terms of an A.P.
35	Geometric Progression	The geometric progression.
36	Geometric Progression	Finding the position of a term in a G.P.
37	Geometric Progression	Given two terms of G.P., find the sequence.
38	Sequences and Series-Geometric means	Geometric means.
39	Sequences and Series-Sum of gp	The sum to n terms of a G.P.
40	Sequences and Series-Sigma notation	Sigma notation
41	Sequences and Series-Sum-infinity	Limiting sum or sum to infinity.
42	Sequences and Series-Recurring decimal infinity	Recurring decimals and the infinite G.P.
43	Sequences and Series-Superannuation	Superannuation.
44	Sequences and Series-Time payments	Time payments.
45	Sequences and Series	Applications of arithmetic sequences