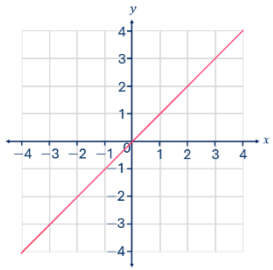
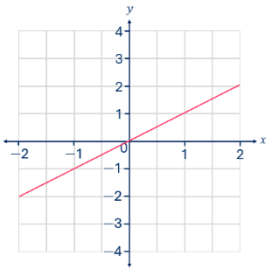
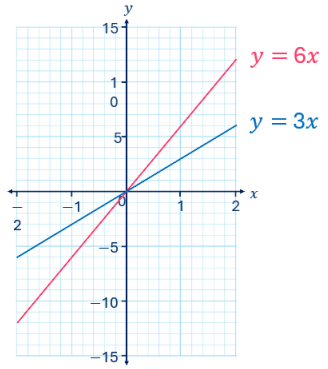
Holy Family Catholic School – Faculty of Mathematics Autumn Half-term 2 Year 8

Learning Intention	Vocab	Concept	Retrieval	Success Criteria	Hinge Questions	Red Zone
Week 1 (Thurs & Fri) - ORIENTATION & EXPECTATIONS						
Week 9 Lesson 1 To recognise and use the line y = x Step 4	Scale Axes Origin Equation of a line Slide 22	ALGEBRA	Table of values. Expand & simplify brackets. Ratio problem. Round to nearest integer.	I will be able to: • Plot the line y = x from a table of values. • To recognise the difference between y = x & y = - x.	Slide 17 Is the statement true or false? $(-5, 5)$ is a point on $y = -x$	  What's the same? What's different?
Week 9 Lesson 2 To create lines of the form y = mx Step 5	Steepness Linear Slope Scale Substitute Slide 23	ALGEBRA	Does a point fit on the line? Expand double brackets Simplify a ratio. Write a number as a power of 10	I will be able to: • To create a table of values for y = mx • To plot the co-ordinates and form straight line.	Slide 20 Which of these graphs can be written in the form $y = mx$? a) $y = x + 4$ c) $5y = x$ b) $y = 2x + x$ d) $y + 7x = 3$	Here are the graphs of $y = 3x$ and $y = 6x$  What's the same? What's different?

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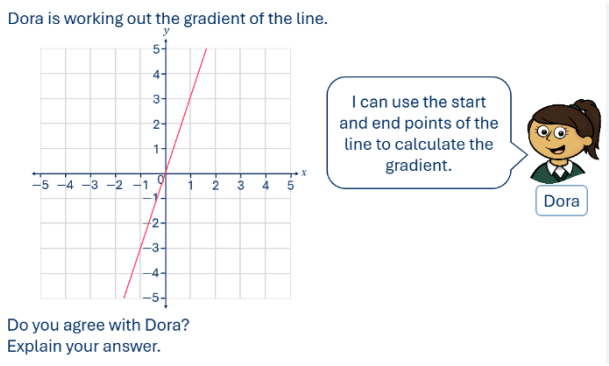
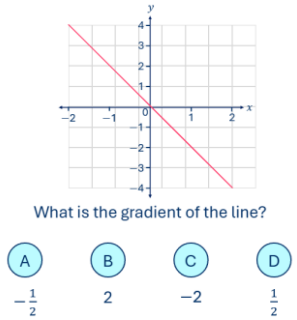
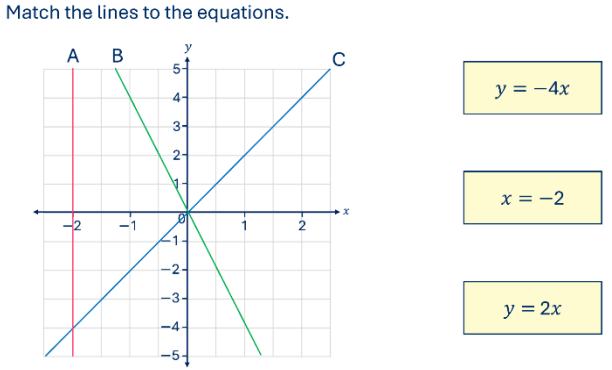
Learning Intention	Vocab	Concept	Retrieval	Success Criteria	Hinge Questions	Red Zone
Week 9 Lesson 3 To understand what a gradient is. Step 7	Steepness Right-angled triangle Gradient Equation of a line Slide 28	ALGEBRA	Direct Proportion Co-ordinates Ratio to fractions Decimal as a power of 10	I will be able to: • To describe a gradient in a step way. • To calculate a gradient using difference in y over difference in x.	Put the graphs in order of steepness, starting with the least steep. $y = 6x$ $y = \frac{5}{6}x$ $y = x$ $y = \frac{6}{5}x$ $y = 5x$	Slide 19 
Week 10 Lesson 1 To identify lines with a negative gradient. Step 8	Steepness Right-angled triangle Gradient Equation of a line Slide 25	ALGEBRA	Gradient Is x = 4 a vertical line? Ratio problem Decimal in standard form	I will be able to: • Calculate a negative gradient. • To name a straight line with a negative gradient.	Slide 20 	Slide 21 

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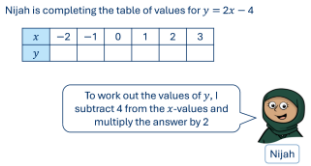
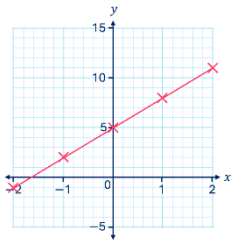
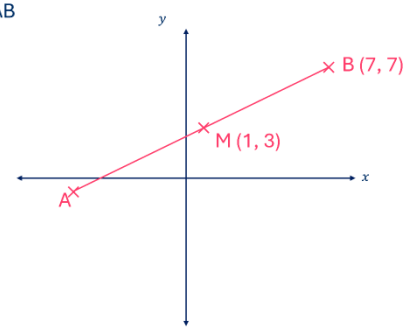
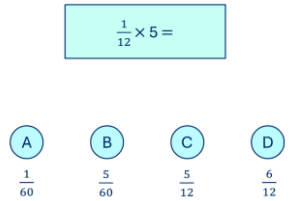
Learning Intention	Vocab	Concept	Retrieval	Success Criteria	Hinge Questions	Red Zone
Week 10 Lesson 2 To work with lines of the form $y = mx + c$. Step 10	Gradient Linear Intercept Equation of a line Slide 22	ALGEBRA	Does a point lie on a line? Plot the graph y = x. Currency conversion. Decimal subtraction.	I will be able to: • To create a table of values for y = mx + c • To plot the co-ordinates and form straight line.	Slide 12 	Slide 17 Whitney has drawn the graph of $y = -3x + 5$ $y = -3x + 5$ x −2 −1 0 1 2 y −1 2 5 8 11 
Week 10 Lesson 3 To find the midpoint of a line segment. Step 11	Half Segment Midpoint Mean	ALGEBRA	Table of values. Does the point lie on the line? Currency conversion. Divide by 100.	I will be able to: • Find the midpoint of two numbers. • Link this to the midpoint of two co-ordinate points.	Slide 19 (6, 2) and (−2, 8) Which is the correct midpoint of the points? A (4, 3) B (8, 6) C (2, 5) D (4, 10)	Slide 21 The diagram shows the line segment AB M is the midpoint of AB  Work out the coordinates of A.

Learning Intention	Vocab	Concept	Retrieval	Success Criteria	Hinge Questions	Red Zone
Week 11 Lesson 1 Consolidation and Practise Co-ordinates and Straight Lines or Step 12/13 Extension						
Week 11 Lesson 2 Revision End of Chapter Assessment						
Week 11 Lesson 3 To multiply a fraction by an integer. Step 1	Unit fraction Non-unit fraction Numerator Denominator Mixed number Improper fraction Slide 23	NUMBER	Table of values Does the point lie on the line? Unit conversion. Multiply 1 digit by 3 digit.	I will be able to: • multiply a fraction by an integer. • multiply a mixed number by an integer.	Slide 15 	Slide 20 Work out. a) $2\frac{1}{2} \times 3$ c) $10 \times 1\frac{1}{5}$ b) $1\frac{3}{4} \times 6$ d) $5 \times 4\frac{7}{8}$

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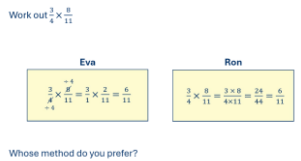
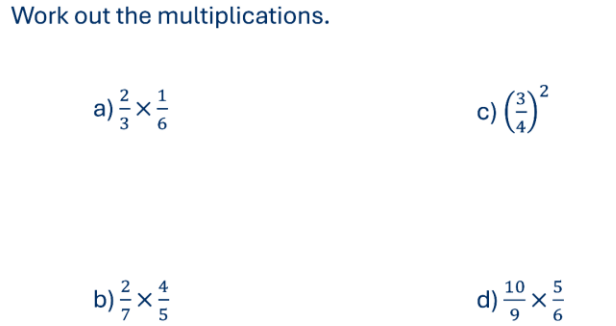
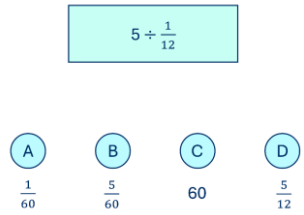
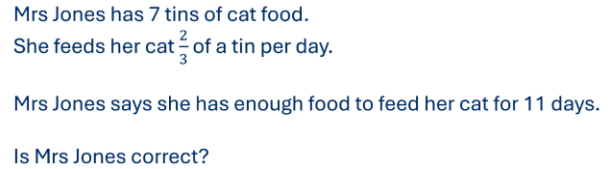
Learning Intention	Vocab	Concept	Retrieval	Success Criteria	Hinge Questions	Red Zone
Week 12 Lesson 1 To multiply fractions. Step 2	Unit fraction Non-unit fraction Numerator Denominator Simplify Slide 26	NUMBER	Fraction multiplied by integer. Table of values. Scale diagram. Division (3 digit by 1 digit)	I will be able to: • To multiply fractions. • To convert answers to mixed numbers as necessary.	Slide 17 	Slide 16 
Week 12 Lesson 2 To divide an integer by a fraction. Step 4 Step 3 Understand reciprocals optional.	Unit fraction Non-unit Quotient Dividend Divisor Integer Slide 23	NUMBER	Reciprocal of a number Find the co-ordinates of a midpoint. Describe an algebraic expression. Multiply decimals.	I will be able to • To divide an integer by a unit fraction. • To divide an integer by a non-unit fraction.	Slide 14 	Slide 18 

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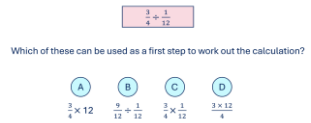
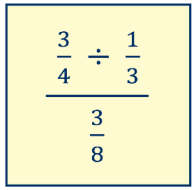
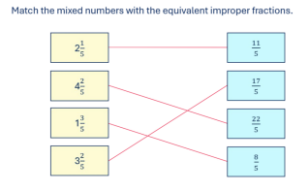
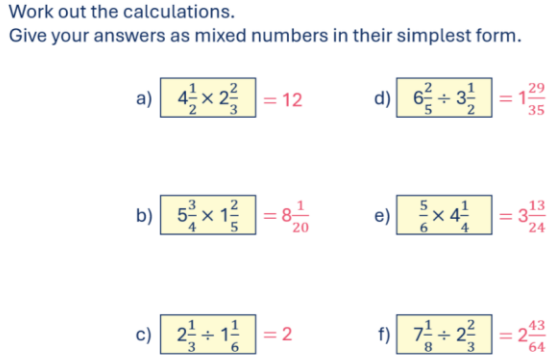
Learning Intention	Vocab	Concept	Retrieval	Success Criteria	Hinge Questions	Red Zone
Week 12 Lesson 3 To divide fractions. Step 7 Select content from step 5 & 6 if needed.	Reciprocal Dividend Divisor Quotient Common denominator Simplify Slide 20	NUMBER	Divide an integer by a fraction (adapt) Multiply fractions Multiply terms BIDMAS	I will be able to: • To divide one fraction by another. • To solve muti-step division problems.	Slide 8 	Slide 18  Show that the fraction is equal to 6
Week 13 Lesson 1 To multiply and divide mixed numbers.	Reciprocal Numerator Denominator Improper fraction Mixed number Product	NUMBER	Divide fractions Divide integer by a fraction. Multiply terms BIDMAS	I will be able to: • Convert a mixed number to an improper fraction. • Multiply by a mixed number. • Divide by a mixed number.	Slide 6 	Slide 18 

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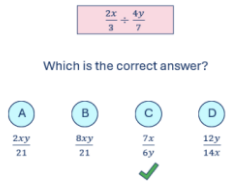
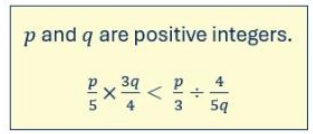
Learning Intention	Vocab	Concept	Retrieval	Success Criteria	Hinge Questions	Red Zone
Week 13 Lesson 2 To multiply and divide algebraic fractions. OR revision of fractions so far in prep for end of chapter assessment.	Reciprocal Quotient Product Simplify Algebraic fraction	NUMBER	Multiply mixed numbers. Divide fractions. Recall prime numbers. BIDMAS	I will be able to • Multiply algebraic fractions. • Divide algebraic fractions. • Simplify the result of multiplication or division.	Slide 17 	Slide 20  Show that the statement is correct.
Week 13 Lesson 3 Revision End of Chapter Assessment						

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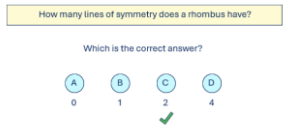
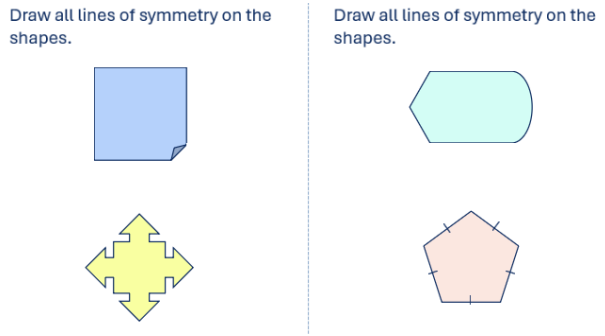
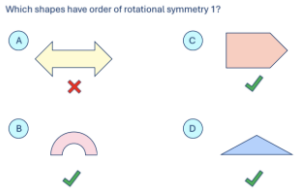
Learning Intention	Vocab	Concept	Retrieval	Success Criteria	Hinge Questions	Red Zone
Week 14 Lesson 1 To describe and draw lines of symmetry for a given shape.	Line of symmetry. Polygon Regular polygon Vertical Horizontal Diagonal	SHAPE, SPACE & MEASURES	Multiply fractions Divide a fraction by an integer. Find the HCF for two numbers. Round a decimal to the nearest integer.	I will be able to: • To draw all possible lines of symmetry onto a shape. • To describe the number and types of lines of symmetry.	Slide 18 	Slide 29 
Week 14 Lesson 2 To describe rotational symmetry for a shape.	Rotational symmetry Order of rotation Regular polygon Irregular polygon	SHAPE, SPACE & MEASURES	Lines of symmetry. Divide fractions. Find the LCM of two numbers. Solve 1-step equations.	I will be able to • Use tracing paper to find the correct order of rotational symmetry.	Slide 15 	Slide 26

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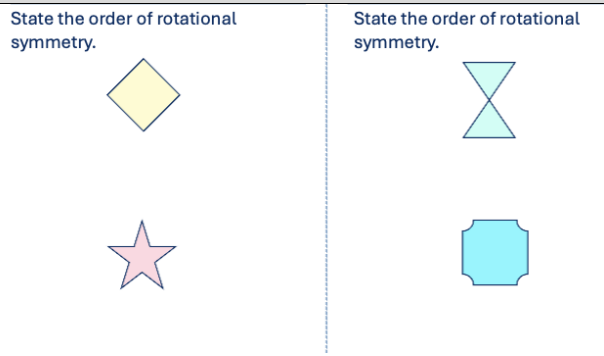
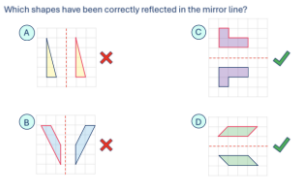
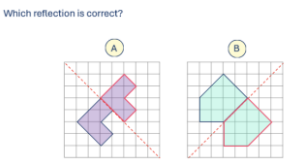
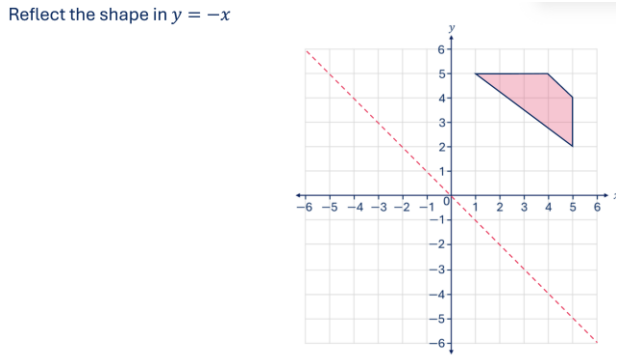
Learning Intention	Vocab	Concept	Retrieval	Success Criteria	Hinge Questions	Red Zone
						
Week 14 Lesson 3 To reflect a shape in a horizontal or vertical line.	Reflection Mirror line Object Image	SHAPE, SPACE & MEASURES	Order of rotation. Divide using fractions. Square a number. Round a decimal to 1dp.	I will be able to: • reflect a shape in a horizontal line of symmetry. • reflect a shape in a horizontal line of symmetry.	Slide 18 	Slide 24 Ron has drawn a square with coordinates (−2, 0), (−2, −3), (1, 0), (1, −3) He reflects the square in the x-axis. Which coordinates will stay the same? What are the coordinates of the new square?

Learning Intention	Vocab	Concept	Retrieval	Success Criteria	Hinge Questions	Red Zone
Week 15 Lesson 1 To reflect a shape in a diagonal mirror line.	Reflection Mirror line Object Image Invariant point	SHAPE, SPACE & MEASURES	Reflect in y-axis. Divide mixed numbers. Square root. Write 10 000 as a single power of 10.	I will be able to: • Reflect a shape in a diagonal mirror line. • Reflect a shape in the line y = x or y = - x on a grid.	Slide 16 	Slide 23 
Week 15 Lesson 2						

Learning Intention	Vocab	Concept	Retrieval	Success Criteria	Hinge Questions	Red Zone
Review / End of Term Assessment						
Week 15 Lesson 3 Review / End of Term Assessment						