Holy Family Catholic School – Faculty of "Mathematics and Technology"

GCSE Mathematics Autumn Half-Term 2 Year 11 Foundation

Learning Intention	Vocab	Concept	Retrieval	Success Criteria	Hinge Questions	Red Zone
Lesson 1 Week 9 Can I work in reverse to find the original amount after a percentage change?	Percentage Profit Loss Increase Decrease Reverse Original Multiplier	NUMBER	Work out percentage increase or decrease.	I will be able to: Find the original amount given the final amount after a percentage increase.		**Exam-style question** 7 In a sale, the normal price of a hat is reduced by 30%. The sale price of the hat is £6.30. Work out the normal price of the hat. **(2 marks)**
Lesson 2 Week 9 Can I calculate a repeated percentage change?	Percentage Increase Decrease Original Multiplier	NUMBER	Write powers of numbers in index form. Convert percentages to decimals.	I will be able to: • Find an amount after repeated percentage change. • Solve growth and decay problems.		**Exam-style question** 15 Pounds Bank has two types of account. Both pay compound interest. **Cash saver** Interest 1.2% per annum **Shares saver** Interest 1.9% per annum **Exam tip** Always think carefully about your multiplier when working out compound interest. Annie invests £3100 in the cash saver account. Jo invests £2950 in the shares saver account. **a** Work out who will get more interest by the end of 3 years. You must show your working. **(4 marks)** **b** In the third year, the rate of interest for the shares account is changed to 2%. Does this affect who will get more interest by the end of 3 years? Give a reason for your answer. **(1 mark)**

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Lesson 3 & 4 Week 9 PAZ revision & preparation WRM Revision Workshop – Paper 1 & 2						
Week 10 PAZ Exams - Week 1						
Week 11 PAZ Exams - Week 2						
Lesson 1 Week 12 Can I solve problems involving compound measures?	Density Mass Volume Units	GEOMETRY & MEASURES	Unit retrieval Volume of cubes . cuboids What is density?	I will be able to: • Solve problems involving density, mass and volume.		**Exam-style question** **18** A ball of clay has a mass of 1.3 kg. The density of the clay is 1.746 g/cm^3. Work out the volume of the ball of clay. Give you answer correct to 3 significant figures. **(3 marks)**
Lesson 2 Week 12 Can I solve problems involving compound measures?	Pressure Force Area Units	GEOMETRY & MEASURES	Unit retrieval Area review What is pressure / force / area?	I will be able to: • Solve problems involving pressure, force and area.		**Exam-style question** **22** A force of 90 newtons acts on an area of 25 cm^2. The force is increased by 30 newtons. The area is doubled. Noel says 'The pressure decreases by a third.' Is Noel correct? You must show how you get your answer. **(3 marks)** **Problem-solving** A rectangular metal sheet of length 80 cm and width 50 cm exerts a force of 8 N on a table. Work out the pressure in N/m^2.

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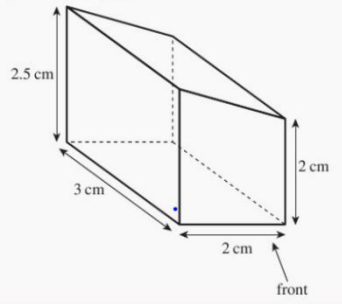
Lesson 3 Week 12 Can I solve problems involving distance, speed and time?	Speed Distance Time Minutes Seconds Hours	GEOMETRY & MEASURES	Speed as a measure of the distance travelled per hour. Substitution practise. Conversion between hours, minutes & seconds.	I will be able to: • Convert between metric measures of speed. • Calculate average speed, distance & time.		**Exam-style question** **12** Emma drives 412 miles from London to Glasgow. She leaves London at 6.15 am and arrives in Glasgow at 2.15 pm. **a** What is her average speed? **(2 marks)** Emma drives on from Glasgow to Inverness at an average speed of 48 mph. She leaves Glasgow at 4.50 pm and arrives in Inverness at 8.20 pm. **b** What distance does Emma drive between Glasgow and Inverness? **(2 marks)**
Lesson 4 Week 12	Algebra problem solving & reasoning. Exam question focus.					
Lesson 1 Week 13 Can I understand and draw plans and elevations of 3D shapes?	Plan Elevation Front Side 3D Face Symmetry	GEOMETRY & MEASURES	Accurate drawing of lines. Symmetry in 2D shapes.	I will be able to: • Identify & sketch planes of symmetry in 3D shapes. • Draw & interpret plans & elevations in 3D shapes.		**Exam-style question** **10** This diagram shows a prism with a cross-section in the shape of a trapezium. On a centimetre grid, draw the front elevation and the plan of the prism. **(3 marks)** 

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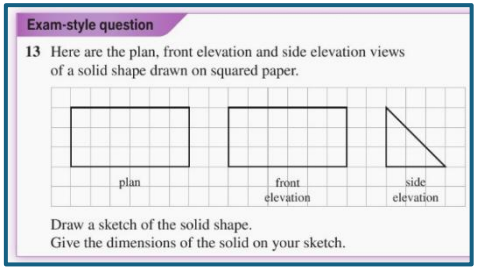
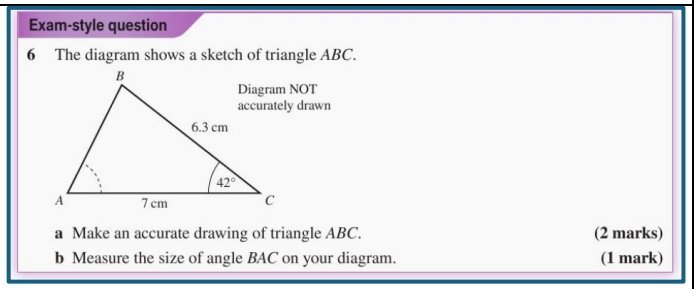
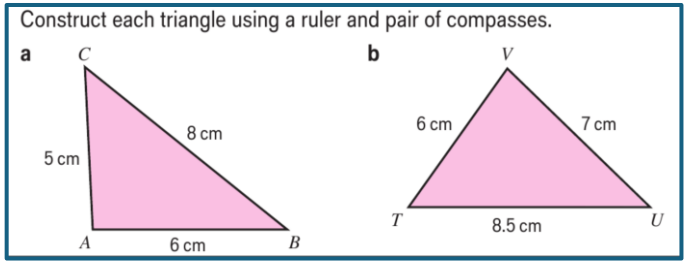
						
Lesson 2 Week 13 Can I make accurate drawings of triangles using a ruler, protractor and compasses?	Construction Congruent Triangles Protractor Compasses Accurate drawing	GEOMETRY & MEASURES	Congruency rules Accurate drawings using compasses.	I will be able to: • Make accurate drawings of triangles using a ruler, protractor and compasses.		 

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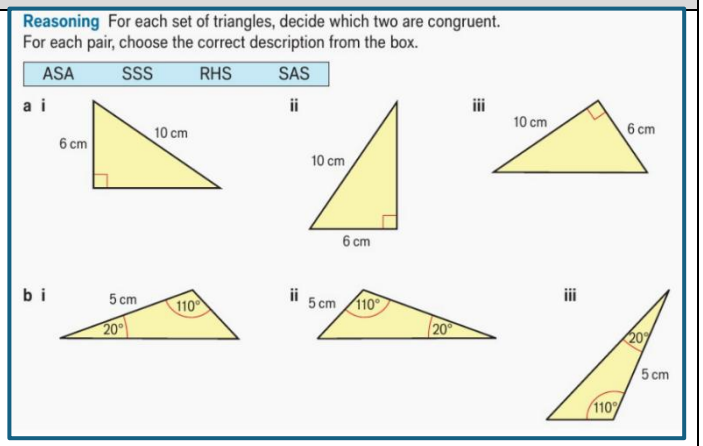
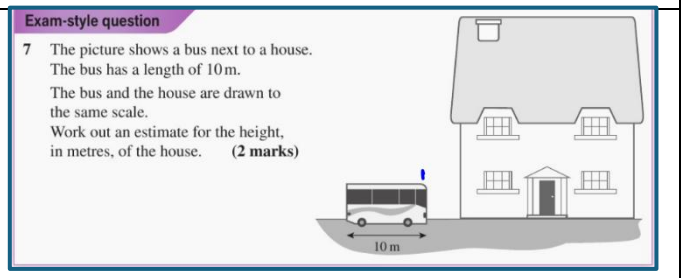
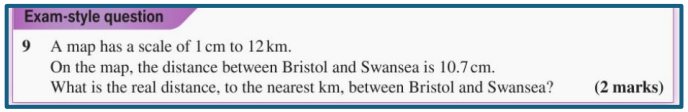
Lesson 3 Week 13	Construction Congruent Triangles Protractor Compasses Accurate drawing	GEOMETRY & MEASURES	Congruency rules Accurate constructions Pythagoras theorem	I will be able to: • Identify SSS, ASA, SAS & RHS as unique form a given description. • Identify congruent triangles.		
Lesson 4 Week 13 Can I draw lengths and distances correctly on given scale drawings?	Scale Distance Lengths Map Real Actual	GEOMETRY & MEASURES	Scale conversions Map to real life measurement.	I will be able to: • Draw diagrams to scale. • Use scales on maps and diagrams to work out lengths and distances. • Solve problems involving scales.		 

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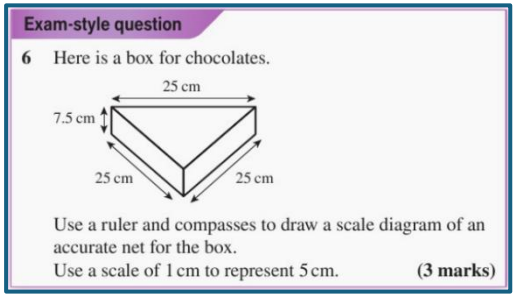
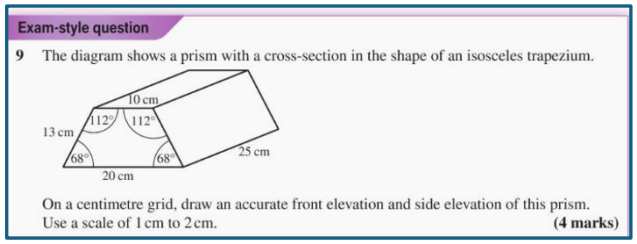
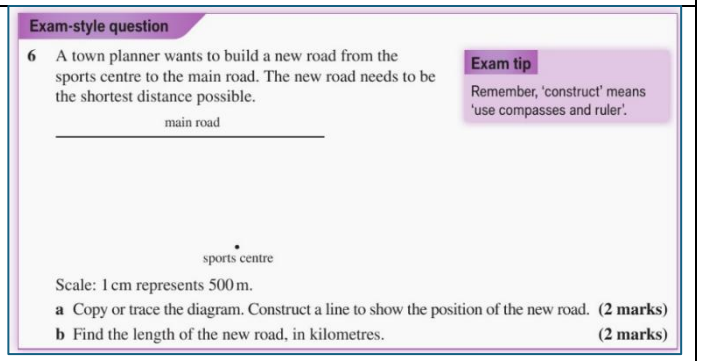
Lesson 1 Week 14	Data problem solving & reasoning. Exam question focus.					
Lesson 2 Week 14 Can I draw accurately using ruler and compasses.	Construction Congruent Triangles Protractor Compasses Accurate drawing	GEOMETRY & MEASURES	Naming sides and angles. Identify a 3D shape from it's net.	I will be able to: • Accurately draw angles and 2D shapes using a ruler, protractor and compasses.		 
Lesson 3 Week 14 Can I bisect angles and lines to solve problems including the shortest distance?	Bisect Compasses Construction Distance Point Line	GEOMETRY & MEASURES	Parallel Perpendicular Construct an equilateral triangle.	I will be able to: • Bisect angles and lines using ruler and compasses. • Find the shortest distance		

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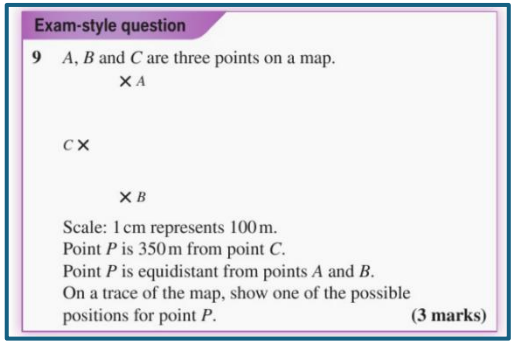
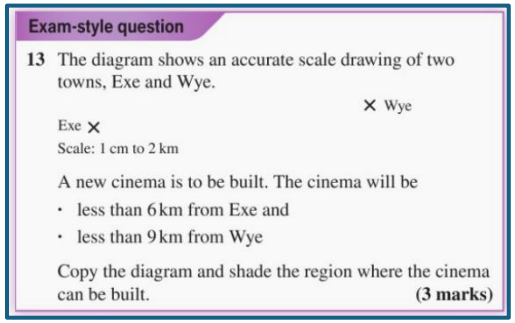
				from a point to a line.		
Lesson 4 Week 14 Can I draw loci for the path of points that follow a given rule?	Loci Path Rule Region Points	GEOMETRY & MEASURES	Scale conversions Perpendicular bisector.	I will be able to: • Draw loci for the path of points that follow a given rule. • Identify regions by loci to solve practical problems.		 

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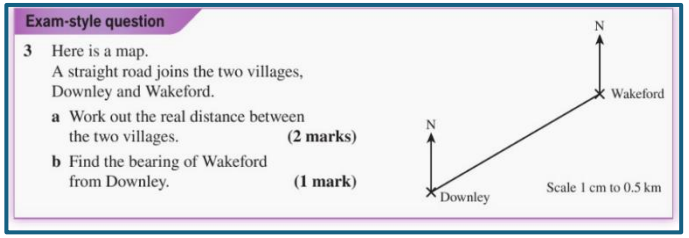
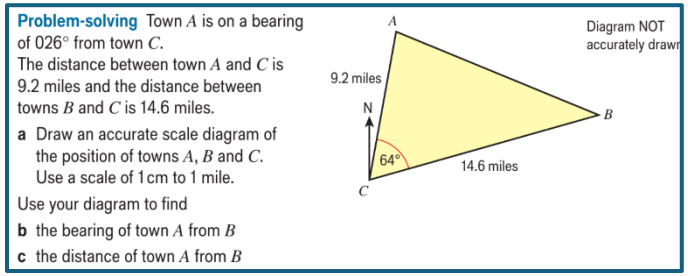
Lesson 1 Week 15 Can I find and use three-figure bearings?	Bearings Three Figures Parallel lines Alternate Correspondin g Co-interior Scale Degrees	GEOMETRY & MEASURES	Review alternate, corresponding & co-interior angles within parallel lines.	I will be able to: • Find and use three-figure bearings. • Use angles on parallel lines to work out bearings. • Solve problems involving bearings and scale diagrams.		 

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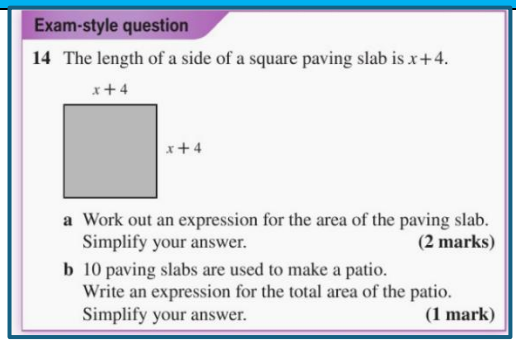
Lesson 2 Week 15	Solving equations problem solving & reasoning. Exam question focus – set up and solve equations, using area / perimeter / angle reasoning.					
Lesson 3 Week 15 Can I expand double brackets?	Brackets Term Operation Negative Positive Quadratic Expression	ALGEBRA	Expand single brackets. Multiply terms with letters & numbers, including negatives. Simplify an expression.	I will be able to: • Expand double brackets. • Recognise quadratic expressions. • Square single brackets.		 
Lesson 4 Week 15 Consolidation & Practise.						