

Year 9 Dwyer	SCASA Standards	Dwyer Exercise Standard	Extra Resources	Assessments
<b>TERM 1</b> Weeks 1-2 Chapter 9 - Statistics  · Histograms	B – (30%) Displays data in histograms and back-to-back stem-and-leaf plots and calculates measures of location and spread.	Ex 9.1 – 9.10	ABS Student Census at School data <a href="http://www.cas.abs.gov.au/cgi-local/cassampler.pl">http://www.cas.abs.gov.au/cgi-local/cassampler.pl</a>	
	C – (40%) Displays data in histograms and back-to-back stem-and-leaf plots.			
	D – (30%) Displays data in column graphs and simple stem-and-leaf plots.			
Week 3-4  Chapter 1 – Indices · Index Laws  Chapter 11 · Scientific Notation	B Applies index laws to rewrite expressions. Chooses to write numbers in the same form in order to make comparisons	Ex 1.1 – 1.11		
	C Applies index laws to expressions with integer indices.	Ex 11.10 – 11.15		
	D Uses indices to calculate numerical values.			
Week 5-6  Chapter 2 – Algebra · Terminology · Like terms · Distributive Law · Factorisation	B Extracts information from a densely worded problem for a financial situation and calculates simple interest.	Ex 2.1 – 2.11		
	C Applies the distributive law to expressions, including binomials, and simplifies by collecting like terms where appropriate.			
	D Simplifies algebraic expressions by collecting like terms.			
Weeks 7-9  Chapter 4 – Linear & Non-linear Graphs	B Sketches a linear function where the rule is given in a form other than gradient or with a non-integral gradient. Solves linear equations graphically. Calculates a linear function rule satisfying the given conditions. Solves a multi-step linear equation, involving brackets, showing full working.	Ex 4.1 – 4.7		Week 7: Test 1: Statistics, Number & Algebra (Ch1,2,&4)  Week 8: Mental test  Week 9: Investigation 1 – Statistics? Home Section handed out
	C Sketches a linear function in gradient form, with integral values of the gradient and y-intercept. Solves two-stage linear equations graphically and algebraically.			
	D Creates a table of values to plot a linear function. Solves a two-stage linear equation.			
Week 10	Revision & Activities			Investigation 1 – In-class validation
<b>TERM 2</b> Week 1-3 Chapter 3 – Area  Chapter 13 – Volume	B Interprets a worded description of a familiar and routine situation to draw a diagram, and calculates the surface area and volume of right prisms.	Ex 3.1 – 3.8		
	C Calculates the surface area and volume of right prisms, from a given diagram.			
	D Performs calculations without discerning between surface area and volume.			
Weeks 4-5  Chapter 7 · Pythagoras' Theorem	B Diagrammatically represents a worded problem and applies Pythagoras' Theorem to determine an unknown side length of a right-angled triangle.	Ex 7.1 – 7.6		Week 4: Test 2 – Measurement & Geometry  Week 5 – Mental test
	C Applies Pythagoras' Theorem to determine an unknown side length of a given right-angled triangle.			
	D Uses Pythagoras' Theorem to determine the length of the hypotenuse, when given the diagram of a right-angled triangle and the length of the two shorter sides.			

Week 6	<b>Exam Revision</b>			
Week 7	<b>Semester 1 Exam</b>			
Weeks 8-10				
RMF				
<b>TERM 3</b> Week 1-2	RMF			Investigation 2 – Pythagoras? Week 2 – Home Section
RMF				
Week 3 Ch 6 Proportion	<ul style="list-style-type: none"> <li>Solve problems involving direct proportion</li> <li>Explore the relationship between graphs and equations corresponding to simple rate problems.</li> <li>Understand the difference between direct and inverse proportion, identifying these in real life contexts and using these relationships to solve problems.</li> </ul>	Ex 6.1 – 6.9		Investigation 2 – In-class validation
Weeks 4-5 Chapter 8 Geometry	<p><b>B</b> Identifies similar triangles from various orientations. Applies geometric conventions and properties to solve two-step or unfamiliar problems, and uses ratios to solve for unknown lengths.</p> <p><b>C</b> Uses ratios to determine missing side lengths, given similar triangles of the same orientation. Applies geometric conventions and properties to solve a routine, one-step problem.</p> <p><b>D</b> Finds missing lengths, given similar triangles of the same orientation, without providing working.</p>	Ex 8.1 – 8.7		
Weeks 6-7 Chapters 12 & 17 Trigonometry	<p><b>B</b> Diagrammatically represents a worded problem involving elevations. Follows multiple steps to solve the problem, i.e. applies Pythagoras and trigonometry.</p> <p><b>C</b> Selects and uses the correct trigonometric ratio to calculate unknown angles, e.g. angles of elevation and depression.</p> <p><b>D</b> Uses trigonometric ratios to find unknown sides in right-angled triangles.</p>	<p>Ex 12.1 – 12.8</p> <p>Ex 17.1 - 17.8</p>		
<ul style="list-style-type: none"> <li>Tangent Ratio</li> <li>Sine Ratio</li> <li>Cosine Ratio</li> <li>Trigonometry</li> <li>Elevation &amp; Depression</li> <li>Multi-Step</li> <li>Problems</li> </ul>				
Weeks 8-9 Chapter 18 – Algebra 2 Binomial expansion	<p><b>B</b></p> <ul style="list-style-type: none"> <li>Applies the distributive law to expressions, including negatives and fractions, to expand and simplify binomials.</li> <li>Distinguishes the algebraic forms of non-linear relations and sketches their matching graphs. Graphically solves non-linear equations. Algebraically solves a two-step quadratic equation.</li> </ul> <p><b>C</b></p> <ul style="list-style-type: none"> <li>Distinguishes the algebraic forms of non-linear relations and sketches their matching graphs. Solves a one-step non-linear equation.</li> </ul> <p><b>D</b> Identifies linear relationships, but not non-linear relationships.</p>	<p>Ex 18.9 – 18.14</p> <p>(Selective revision of Ex 18.1 – 18.8)</p>	<p>Geogebra</p> <p>-investigate changes to a,b,c,d on <math>y=x^2</math></p>	<p>Week 8: Test 3</p> <p>Week 9: Mental test</p>
<ul style="list-style-type: none"> <li>Graphing parabolas</li> <li>Finding x &amp; y intercepts</li> </ul>				
Week 10	Activities			

<p><b>TERM 4</b> Week 1-2 Chapter 16 – Coordinate Geometry</p>	<p>B Solves problems on the Cartesian plane using gradient, midpoint and distance, including finding missing coordinates.</p>	<p>Ex 16.1 – 16.9</p>		
<p>C Calculates the distance between two given points and calculates the midpoint of a segment.</p>				
<p>D Calculates a horizontal or vertical distance between two points on the Cartesian plane.</p>				
<p>Week 3 Chapter 14 – Probability</p>	<p>B Draws the sample space for a non-routine, two-step experiment with equally likely outcomes, and assigns probabilities. Correctly interprets probabilities that include the words ‘not’, ‘and’ or ‘or’. Conducts experiments and calculates relative frequencies to estimate probabilities and compares these to theoretical probabilities.</p>	<p>Ex 14.1 – 14.8</p>		
<p>C Draws the sample space to represent the outcomes of a two-step experiment, and assigns probabilities. Conducts experiments and calculates relative frequencies to estimate probabilities.</p>				
<p>D Uses a two-step sample space to calculate the probability of described events. Conducts experiments and calculates relative frequencies.</p>				
<p>Week 4-5 Chapter 19 - Data</p>	<p>B  <ul style="list-style-type: none"> <li>Evaluates different techniques that could be used to collect data from primary and secondary sources. Selects the most appropriate techniques.</li> <li>Describes the shape of data displays using correct statistical language, e.g. negatively or positively skewed, symmetric, bimodal. Explains the expected consequential relationship between the mean and the median.</li> </ul> </p>	<p>Ex 19.1 – 19.8</p>		<p>Week 4: Test 4 – Chapters 16, 14 &amp; 19</p>
<p>C  <ul style="list-style-type: none"> <li>Compares alternatives to select appropriate techniques to collect data from primary and secondary sources.</li> <li>Uses the shape of data displays to describe data as being skewed, symmetric or bimodal and identifies that a consequential relationship between the mean and the median exists.</li> </ul> </p>				
<p>D  <ul style="list-style-type: none"> <li>Compares only two techniques to collect data from primary and secondary sources.</li> <li>Describes the shape of data displays as different, but makes no connection to the relationship between the mean and the median.</li> </ul> </p>				
<p>Week 5-6</p>	<p>Exam Revision</p>			
<p><b>Week 6</b></p>	<p><b>Semester 2 Examination</b></p>			
<p>OLNA Preparation</p>				<p>Week 7: Mental Test</p>