

Unit 1: Trigonometry (10 days)

Day	Expectations	Technology	Specific Expectations	Homework
1	<ul style="list-style-type: none"> • solve sides of right angled triangles using primary trig ratios 		C2.1	Page 8 #1-3, 5
2	<ul style="list-style-type: none"> • solve angles of right angled triangles using primary trig ratios 		C2.1	Page 15 #1-3, 6
3	<ul style="list-style-type: none"> • solve problems, including those that arise from real-world applications (e.g., surveying, navigation), by determining the measures of the sides and angles of right triangles using the primary trigonometric ratios; 		C2.1	Page 8 #4, 6 Page 16 #4, 5, 7
4	<ul style="list-style-type: none"> • verify, through investigation using technology (e.g., dynamic geometry software, spreadsheet), the sine law and the cosine law (e.g., compare, using dynamic geometry software, the ratios $a/\sin A$, $b/\sin B$, and c in triangle ABC while dragging one $c/\sin C$ of the vertices) 	GSP 1.3 Inquire	C2.2	Page 25 #1, 3, 6
5	<ul style="list-style-type: none"> • verify, through investigation using technology (e.g., dynamic geometry software, spreadsheet), the sine law and the cosine law (e.g., compare, using dynamic geometry software, the ratios $a/\sin A$, $b/\sin B$, and c in triangle ABC while dragging one $c/\sin C$ of the vertices) 	GSP 1.5 Inquire	C2.2	Page 35 #1, 2, 3, 5
6	<ul style="list-style-type: none"> • calculate measures of sides in acute triangles by applying the sine and cosine law 		C2.3	Handout: Choosing the Sine Law or Cosine Law
7	<ul style="list-style-type: none"> • apply the sine and cosine law to real-world problems and use metric as well as imperial measurements 		C2.4	Page 25 #2, 5, 9
8	<ul style="list-style-type: none"> • apply the sine and cosine law to real-world problems and use metric as well as imperial measurements 		C2.4	Page 37 #8-10 Page 44 #9
9	Review			Page 46-48
10	<ul style="list-style-type: none"> • create a concept map outlining the key concepts of solving acute triangles 			
11	Test # 1			

Unit 2: Quadratics Part 1 (14 days)

Day	Key Concepts and Strategies	Technology	Expectations	Homefun
1	<ul style="list-style-type: none"> using tables of values, graph quadratic relations of real-world applications interpret the significance of the variables used in graphing quadratic real-world applications 		A1.1, A1.2	Page 103 #4, 6, 7
2	<ul style="list-style-type: none"> using tables of values, graph quadratic relations of real-world applications interpret the significance of the variables used in graphing quadratic real-world applications 	Graphing Calculator	A1.1, A1.2	Page 109 #1 - 3
3	$y = (x + h)^2 + k$ <ul style="list-style-type: none"> determine, through investigation using technology, the roles of a , h and k in quadratic relations in the form $y = a(x - h)^2 + k$ and describe these roles in terms of transformations on the graph $y = x^2$ 	Graphing Calculator	A1.1, A1.3	Page 114 #1-4, 6, 9
4	$y = ax^2$ <ul style="list-style-type: none"> determine, through investigation using technology, the roles of a , h and k in quadratic relations in the form $y = a(x - h)^2 + k$ and describe these roles in terms of transformations on the graph $y = x^2$ 	Graphing Calculator	A1.1, A1.3	Page 119 #1 – 3, 5
5,6	<ul style="list-style-type: none"> sketch graphs of $y = a(x - h)^2 + k$ by identifying the vertex and the steps needed to generate symmetrical coordinates (apply change in vertical differences : 1, 3, 5 ,.. when a=1) 		A1.4	Page 123 #1, 2, 4
7	Mid Unit Quiz, Communication Evaluation			
8	<ul style="list-style-type: none"> expand and simplify quadratic expressions in one variable involving multiplying binomials using a variety of tools 		A1.5, A1.6	Page 129 #1, 2, 5, 7
9, 10	<ul style="list-style-type: none"> factor trinomials $ax^2 + bx + c$, where a =1 and a is a common factor 		A1.7	Page 137 #1 – 5, 7, 8a
11	investigate the connection between the factors and the x-intercepts of a quadratic relation	Graphing Calculator	A1.8	Page 141 #1 – 3, 6
12, 13	Review <ul style="list-style-type: none"> Concept Map 			Page 144 – 145, Page 146
14	Test # 2			

Unit 4: Statistics (10 days)

Day	Key Concepts and Strategies	Technology	Expectations		Homefun
			Overall	Specific	
1	One Variable Data <ul style="list-style-type: none"> • identify situations involving one-variable data • secondary sources & use of various tools to organize and store data 		DMV.01	DM1.01 DM1.02	7.1-7.2
2	Sampling Types and Techniques <ul style="list-style-type: none"> • population & sample • sampling techniques & primary sources • Four Corners (DM1.04): Describe a specific example or scenario of a sampling technique without identifying it. Have students move to an area in the classroom that is labeled as a specific sampling technique (random, stratified, clustered, other – convenience or voluntary) that they believe represents the example. Then have the students work in these groups to help justify their ideas and present to them to the class. 	spreadsheet (MS Excel) E-STAT Fathom	DMV.01	DM1.03 DM1.04	7.3, 7.7 Handouts
3	Identifying and graphing one-variable data <ul style="list-style-type: none"> • various types of one-variable data represented in graphical forms 	graphing calculator	DMV.01	DM1.05	Handouts
4	Common Distribution Properties and Questionnaire Design <ul style="list-style-type: none"> • distributions of data (normal, bimodal, skewed) 		DMV.01	DM1.01 DM1.06	handout
5	Collecting and Organizing One-Variable Data				
6	<ul style="list-style-type: none"> • measures of central tendency (mean, mode, median) 	spreadsheet (MS Excel) Fathom E-STAT graphing calculator	DMV.01	DM1.07 DM1.08	7.5
7	<ul style="list-style-type: none"> • measures of spread (range, standard deviation) 		DMV.01	DM1.07 DM1.08	handouts
8	Analyzing One-Variable Data <ul style="list-style-type: none"> • solve one variable data collected from secondary sources 		DMV.01	DM1.09 DM1.10	7.8
9	Review		DMV.01		
10	Test #4		DMV.01		

Unit 5: Probability (8 days)

Day	Key Concepts and Strategies	Technology	Expectations		Homefun
			Overall	Specific	
1	<ul style="list-style-type: none"> probability in the media various representations of probability theoretical probability 		DMV.02	DM2.01 DM2.02	8.1, 8.2
2-3	<ul style="list-style-type: none"> probability experiments, frequency distributions experimental probability of an event 		DMV.02	DM2.03	8.3 handouts
4	<ul style="list-style-type: none"> compare theoretical vs. experimental probability after completing an investigation, have students look at their results using think/pair/share and compare theoretical & experimental probability and brainstorm why they might differ. The pairs will join larger groups to share their ideas and then present to the class. 		DMV.02	DM2.04	8.4
5	<ul style="list-style-type: none"> class-generated data and technology-based simulation models to show the tendency of experimental to approach theoretical probability with increase in trials 	number generator on spreadsheet (MS Excel) graphing calculator	DMV.02	DM2.05	8.5 handouts
6	<ul style="list-style-type: none"> use of probability and statistics in the media and making connections between them 	Internet	DMV.02	DM2.06	handouts Websites: www.statcan.ca , http://curriculum.oreo.on.ca/mathematics/curriculum_links.htm#statcan
7	Review		DMV.01 DMV.02		
8	Test # 7 (2 of 2 for Strand 4)		DMV.01 DMV.02		

Unit 3: Exponential Relations (10 days)

Day	Key Concepts and Strategies	Technology	Expectations	Homefun
1	<p>Exponent Rules</p> <ul style="list-style-type: none"> determine through investigation the exponent rules for multiplying and dividing numerical expressions involving exponents evaluate expressions of positive exponents 		A2.3 A2.2	Page 165 #1-9
2	<p>Zero and Negative Exponents</p> <ul style="list-style-type: none"> determine through investigation the meaning of negative exponents and the zero exponent 	Graphing Calculator	A2.1 A2.2	Page 169 #1-7
3	Putting all the Rules Together			Worksheet
4	<p>Graph Exponential Relations</p> <ul style="list-style-type: none"> graph simple exponential relations e.g. $y = 2^x, y = 10^x, y = \left(\frac{1}{2}\right)^x$ describe these sketches and look for relationships 		A2.4 A2.5	Page 173 #1-3, 5
5	<p>Applications of Exponential Growth</p> <ul style="list-style-type: none"> solve problems using given equations of exponential relations 		A3.2 A3.4	Page 180 #1-5
6	<p>Applications of Exponential Decay</p> <ul style="list-style-type: none"> solve problems using given equations of exponential relations 			Page 185 #1-4
7	<p>Characteristics of Exponential Relations</p> <ul style="list-style-type: none"> collect data that can be modeled as an exponential relation describe characteristics of exponential relations (e.g. show with technology there is no maximum or minimum value) have students write in a journal to respond to the question: What does "The population is modeled by an exponential relation" mean? 	Graphing Calculator	A3.1 A3.2	
8	<p>Comparing Linear, Quadratic and Exponential Relations</p> <ul style="list-style-type: none"> compare exponential, quadratic and linear graphs within the same context pose and solve problems involving exponential relations arising from a variety of real-world applications <p>Appendix Investigation: "Half Life of a Radioactive Material"</p>	Graphing Calculator	A2.6 A3.3	Page 193 #1-4, 6

9	Review Read 199			Page 200 #1 – 21 Practice Test Page 202
10	Test #3			

Unit 7: Personal Finance (14 days)

Day	Key Concepts and Strategies	Technology	Expectations		Homefun
			Overall	Specific	
1-2	Introduction to Simple Interest	graphs,	PFV.01	PF1.01 PF1.02	5.1-5.2
2	Compound Interest From Simple Interest <ul style="list-style-type: none"> • difference between compound interest vs. simple interest • relationship between compound interest and exponential growth <p>*need to mention relationship between compound interest and exponential growth, since resources do not</p>	graphs, (MS Excel), graphing calculator	PFV.01	PF1.02	5.1-5.2
3	Finance on a Spreadsheet <ul style="list-style-type: none"> • compound interest & calculation of final amount $A=P(1+i)^n$ • total interest earned ($I=A-P$) 	spreadsheet scientific calculator	PFV.01	PF1.03 PF1.04	5.3
4	Introduction to Compound Interest <ul style="list-style-type: none"> • present value • $PV=A(1+i)^{-n}$ is easier for students to use than $PV = \frac{A}{(1+i)^n}$. Students will need reminding of the (+/-) button on their calculator. 	scientific calculator	PFV.01	PF1.03 PF1.04	5.6
5-6	Interest Calculations with TVM Solver <ul style="list-style-type: none"> • compound interest and calculation of interest rate per compounding period (i) or the number of compounding periods (n) • a visual aid poster with TVM Solver steps • have the students create a group journal on chart paper of the steps/procedure of how to use the TVM Solver in solving and calculating for the interest rate, number of compounding periods, or final amount (FV). Display the 	graphing calculator (TVM Solver), spreadsheet (MS Excel)	PFV.01	PF1.05 PF1.06	5.7 Handouts

	journals in the classroom for students to refer back to and review.				
7	Review				
8	Test				
9	<p>Interest and Savings Alternatives</p> <ul style="list-style-type: none"> • savings alternatives • investment alternatives • allow students to work in groups and orally present examples 1 to 5 in section 4.5 (MHRF11), using PowerPoint. These examples allow students to become familiar with various savings & investment alternatives available at financial institutions and also study risk tolerance. 	<p>Internet research</p> <p>Websites:</p> <p>http://www.fundlibrary.com/</p> <p>http://www.royalbank.com/</p> <p>http://www.cibc.com/</p> <p>www.csb.gc.ca/eng/default.asp</p>	PFV.02	PF2.01 PF2.02	<p>AW11 – 1.7, 2.6 (p.93-96), 7.7 (p.365-367), Section 1.7 (Project, p.46, 48)</p> <p>MHRF11 – 4.5, p.163 #13-15, p.165 #11</p>
10	<p>Introduction To Credit Cards</p> <ul style="list-style-type: none"> • Borrowing money • costs associated with credit cards and debit cards 	<p>Internet research</p> <p>Websites:</p> <p>www.fcac-acfc.gc.ca, www.fcac.gc.ca</p>	PFV.02	PF2.03 PF2.04	6.1-6.2
11	<p>Comparing Financial Services</p> <ul style="list-style-type: none"> • application of compound interest and the cost of making a purchase on credit 		PFV.02	PF2.05	6.3
12	<p>Vehicles: Costs Associated With Owning</p> <ul style="list-style-type: none"> • costs of insuring a vehicle, insurance rates • fixed & variable costs of owning and operating a vehicle • create a problem where a graph is given of gasoline consumption vs. speed to determine how much gasoline is used to drive a certain distance at specific speeds 	<p>Internet research</p> <p>Websites:</p> <p>http://www.ibr.ca, http://www.inanarkmutual.on.ca/</p>	PFV.03	PF3.01	<p>AW11 – 7.3 (p.346, p.348 #4)</p> <p>MHRF11 – 7.3 (p.271 Example 1, p.274 #9, 10), p.270 “Discover”</p>
13	<p>Vehicles: Buying or Leasing</p> <ul style="list-style-type: none"> • costs in buying a new vehicle, leasing, or buying a used vehicle 		PFV.03	PF3.02	<p>AW11 – 7.1, 7.2, 7.3, 7.4</p> <p>MHRF11 - 7.1, 7.2, 7.3, 7.4, p.283 “Case Study”</p>
14	Vehicles: Buying Old or New	<p>Internet research</p> <p>Websites:</p>	PFV.03	PF3.01	6.5

		http://www.ibr.ca, http://www.inarkmutual.on.ca/			
--	--	---	--	--	--

Unit 8: Geometry (10 days)

Day	Expectations	Technology	Expectations		Homefun
			Overall	Specific	
1	<ul style="list-style-type: none"> identify real world applications of 3D geometric shapes 		GTV.01	GT1.01	p.56 then 2.1 #1-4
2	Imperial and Metric systems of Measurement			GT1.03	
3	Representing 3-D figures using orthographic and isometric methods <ul style="list-style-type: none"> construct 3D objects using materials or drawing software technology tutorials for using GSP, CorelDraw and AutoCAD to draw 3-D shapes 	GSP CorelDraw AutoCAD	GTV.01	GT1.02	2.3 Journal?
4	Representing 3-D figures using scale models <ul style="list-style-type: none"> use the metric and imperial system to create nets, plans and patterns from physical models 		GTV.01	GT1.03	2.4 # 1-6
5	Representing 3-D figures using a net, pattern or plan <ul style="list-style-type: none"> create nets, plans and patterns using technology 		GTV.01	GR1.04	2.6 # 1-6
6	Creating plans <ul style="list-style-type: none"> solve design problems given specific constraints Project: Designing My Home Activity 3.1- see MAP4C course profile pgs 23-25 http://www.curriculum.org/csc/library/profiles/12/mathematics_p.shtml				2.7 #1, divide #2 among groups of three students Journal ?
7	Creating an individual design problem				
8	Review <ul style="list-style-type: none"> create a Placemat outlining the key concepts of solving acute triangles 				p. 90-92
9	Performance Task		GTV.02		
10	Test # 8		GTV.01 GTV.02		

