

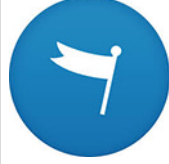
شكراً لتحميلك هذا الملف من موقع المناهج الإماراتية



الخطة الفصلية المسار المتقدم - بريدج

موقع المناهج ← المناهج الإماراتية ← الصف العاشر المتقدم ← رياضيات ← الفصل الثالث ← الملف

التواصل الاجتماعي بحسب الصف العاشر المتقدم



روابط مواد الصف العاشر المتقدم على تلغرام

[الرياضيات](#)

[اللغة الانجليزية](#)

[اللغة العربية](#)

[التربية الاسلامية](#)

المزيد من الملفات بحسب الصف العاشر المتقدم والمادة رياضيات في الفصل الثالث

[دليل تصحيح أسئلة الامتحان النهائي بريدج](#)

1

[أسئلة الامتحان النهائي الالكتروني بريدج](#)

2

[أسئلة الامتحان النهائي الورقي بريدج](#)

3

[حل أسئلة الاختبار التحريبي نخبة](#)

4

[حل أسئلة الاختبار التحريبي ريفيل](#)

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Grade 10 Advanced Stream (Bridge) Scheme of Work, Term 3, Academic Year 2022-2023

Purpose

- to define the **required** Advanced Stream Mathematics Student Learning Outcomes to be covered during the term for this grade
- to **recommend** the pace at which the Student Learning Outcomes are to be covered. The term's content is broken down into eight teaching weeks, allowing the coverage of topics within each week to be flexible.

Assessment

- Assessment details for Term 3 will be communicated separately.

Teachers should incorporate the Standards for Mathematical Practice (SMPs) in their instruction when and where appropriate. The Standards for Mathematical Practice are

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

Why are the Standards for Mathematical Practice important?

The Standards for Mathematical Practice set expectations for using mathematical language and representations to reason, solve problems, and model in preparation for careers and a wide range of college majors.

Week 1: April 17 – 21, 2023 (Ramadan ends ~April 20; Eid al-Fitr ~April 20 – 23)

Chapter 9 – Rational Functions and Relations

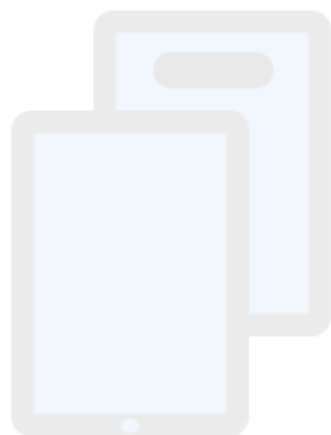
Lessons	Student Learning Outcomes	Common Core State Standards
C9L1 – Multiplying and Dividing Rational Expressions	<ul style="list-style-type: none"> Simplify rational expressions. Simplify complex fractions. 	A.APR.7 Understand that rational expressions form a system analogous to the rational numbers, closed under addition, subtraction, multiplication, and division by a non-zero rational expression; add, subtract, multiply, and divide rational expressions.
C9L2 – Adding and Subtracting Rational Expressions	<ul style="list-style-type: none"> Determine the LCM of polynomials. Add and subtract rational expressions. 	

Week 2: April 24 – 28, 2023

Lessons	Student Learning Outcomes	Common Core State Standards
C9L3 – Graphing Reciprocal Functions	<ul style="list-style-type: none"> Determine properties of reciprocal functions. Graph transformations of reciprocal functions. 	A.CED.2 Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales. F.BF.3 Identify the effect on the graph of replacing $f(x)$ by $f(x) + k$, $kf(x)$, $f(kx)$, and $f(x + k)$ for specific values of k (both positive and negative); find the value of k given the graphs. Experiment with cases and illustrate an explanation of the effects on the graph using technology.
C9L4 – Graphing Rational Functions	<ul style="list-style-type: none"> Graph rational functions with vertical and horizontal asymptotes. Graph rational functions with oblique asymptotes and point discontinuity. 	A.CED.2 Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales. F.IF.9 Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions).

Week 3: May 1 – 5, 2023

Lessons	Student Learning Outcomes	Common Core State Standards
C9L5 – Variation Functions	<ul style="list-style-type: none">Recognize and solve direct and joint variation problems.Recognize and solve inverse and combined variation problems.	A.CED.2 Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales. F.IF.9 Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions).
C9L6 – Solving Rational Equations and Inequalities	<ul style="list-style-type: none">Solve rational equations.Solve rational inequalities.	A.CED.1 Create equations and inequalities in one variable and use them to solve problems. A.REI.2 Solve simple rational and radical equations in one variable, and give examples showing how extraneous solutions may arise.



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Week 4: May 8 – 12, 2023

Chapter 10 – Trigonometric Functions

Lessons	Student Learning Outcomes	Common Core State Standards
C10L1 – Trigonometric Functions in Right Triangles	<ul style="list-style-type: none"> • Find values of trigonometric functions for acute angles. • Use trigonometric functions to find side lengths and angle measures of right triangles. 	<p>G.SRT.6 Understand that by similarity, side ratios in right triangles are properties of the angles in the triangle, leading to definitions of trigonometric ratios for acute angles.</p> <p>G.SRT.7 Explain and use the relationship between the sine and cosine of complementary angles.</p> <p>G.SRT.8 Use trigonometric ratios and the Pythagorean Theorem to solve right triangles in applied problems.</p>
C10L2 – Angles and Angle Measure	<ul style="list-style-type: none"> • Draw and find angles in standard position. • Convert between degree measures and radian measures. 	<p>F.TF.1 Understand radian measure of an angle as the length of the arc on the unit circle subtended by the angle.</p> <p>F.TF.2 Explain how the unit circle in the coordinate plane enables the extension of trigonometric functions to all real numbers, interpreted as radian measures of angles traversed counterclockwise around the unit circle.</p>
C10L3 – Trigonometric Functions of General Angles	<ul style="list-style-type: none"> • Find values of trigonometric functions for general angles. • Find values of trigonometric functions by using reference angles. 	<p>F.TF.3 Use special triangles to determine geometrically the values of sine, cosine, tangent for $\frac{\pi}{3}$, $\frac{\pi}{4}$, and $\frac{\pi}{6}$, and use the unit circle to express the values of sine, cosine, and tangent for x, $(\pi + x)$, and $(2\pi - x)$ in terms of their values for x, where x is any real number.</p>

Week 5: May 15 – 19, 2023

Lessons	Student Learning Outcomes	Common Core State Standards
C10L4 – Law of Sines	<ul style="list-style-type: none"> Find the area of a triangle using two sides and an included angle. Use the Law of Sines to solve triangles. 	<p>G.SRT.9 Derive the formula $A = \frac{1}{2}ab \sin C$ for the area of a triangle by drawing an auxiliary line from a vertex perpendicular to the opposite side.</p> <p>G.SRT.10 Prove the Laws of Sines and Cosines and use them to solve problems.</p> <p>G.SRT.11 Understand and apply the Law of Sines and the Law of Cosines to find unknown measurements in right and non-right triangles (e.g., surveying problems, resultant forces).</p>
C10L5 – Law of Cosines	<ul style="list-style-type: none"> Use the Law of Cosines to solve triangles. Choose methods to solve triangles. 	
C10L6 – Circular and Periodic Functions	<ul style="list-style-type: none"> Find values of trigonometric functions based on the unit circle. Use the properties of periodic functions to evaluate trigonometric functions. 	<p>F.TF.2 Explain how the unit circle in the coordinate plane enables the extension of trigonometric functions to all real numbers, interpreted as radian measures of angles traversed counterclockwise around the unit circle.</p> <p>F.TF.3 Use special triangles to determine geometrically the values of sine, cosine, tangent for $\frac{\pi}{3}$, $\frac{\pi}{4}$, and $\frac{\pi}{6}$, and use the unit circle to express the values of sine, cosine, and tangent for x, $(\pi + x)$, and $(2\pi - x)$ in terms of their values for x, where x is any real number.</p> <p>F.TF.4 Use the unit circle to explain symmetry (odd and even) and periodicity of trigonometric functions.</p>

Week 6: May 22 – 26, 2023

Lessons	Student Learning Outcomes	Common Core State Standards
C10L7 – Graphing Trigonometric Functions	<ul style="list-style-type: none"> Describe and graph the sine, cosine, and tangent functions. Describe and graph other trigonometric functions. 	<p>F.IF.7 Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases.</p> <p>F.IF.7.e Graph exponential and logarithmic functions, showing intercepts and end behavior, and trigonometric functions, showing period, midline, and amplitude.</p>
C10L8 – Translations of Trigonometric Graphs	<ul style="list-style-type: none"> Graph horizontal translations of trigonometric graphs and find phase shifts. Graph vertical translations of trigonometric graphs. 	<p>F.TF.5 Choose trigonometric functions to model periodic phenomena with specified amplitude, frequency, and midline.</p>
C10L9 – Inverse Trigonometric Functions	<ul style="list-style-type: none"> Find values of inverse trigonometric functions. Solve equations by using inverse trigonometric functions. 	<p>F.TF.6 Understand that restricting a trigonometric function to a domain on which it is always increasing or always decreasing allows its inverse to be constructed.</p> <p>F.TF.7 Use inverse functions to solve trigonometric equations that arise in modeling contexts; evaluate the solutions using technology, and interpret them in terms of the context.</p>

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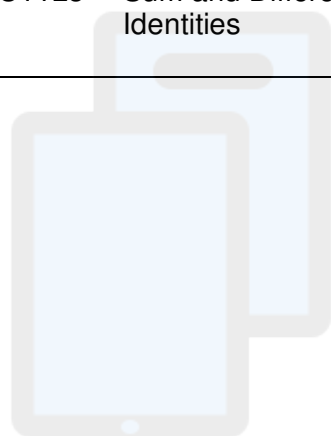
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Week 7: May 29 – June 2, 2023

Chapter 11 – Trigonometric Identities and Equations

Lessons	Student Learning Outcomes	Common Core State Standards
C11L1 – Trigonometric Identities	<ul style="list-style-type: none"> Use trigonometric identities to find trigonometric values. Use trigonometric identities to simplify expressions. 	<p>F.TF.8 Prove the Pythagorean identity $\sin^2\theta + \cos^2\theta = 1$ and use it to find $\sin(\theta)$, $\cos(\theta)$, or $\tan(\theta)$ given $\sin(\theta)$, $\cos(\theta)$, or $\tan(\theta)$ and the quadrant of the angle.</p> <p>F.TF.9 Prove the addition and subtraction formulas for sine, cosine, and tangent and use them to solve problems.</p>
C11L2 – Verifying Trigonometric Identities	<ul style="list-style-type: none"> Verify trigonometric identities by transforming one side of an equation into the form of the other side. Verify trigonometric identities by transforming each side of the equation into the same form. 	
C11L3 – Sum and Difference of Angles Identities	<ul style="list-style-type: none"> Find values of sine and cosine by using sum and difference identities. Verify trigonometric identities by using sum and difference identities. 	

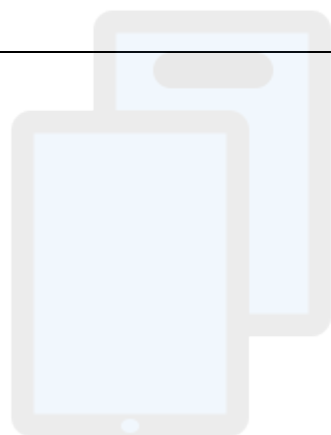


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Week 8: June 5 – 9, 2023		
Lessons	Student Learning Outcomes	Common Core State Standards
C11L4 – Double-Angle and Half-Angle Identities	<ul style="list-style-type: none"> Find values of sine and cosine by using double-angle identities. Find values of sine and cosine by using half-angle identities. 	F.TF.8 Prove the Pythagorean identity $\sin^2\theta + \cos^2\theta = 1$ and use it to find $\sin(\theta)$, $\cos(\theta)$, or $\tan(\theta)$ given $\sin(\theta)$, $\cos(\theta)$, or $\tan(\theta)$ and the quadrant of the angle. F.TF.9 Prove the addition and subtraction formulas for sine, cosine, and tangent and use them to solve problems.
C11L5 – Solving Trigonometric Equations	<ul style="list-style-type: none"> Solve trigonometric equations. Find extraneous solutions from trigonometric equations. 	

Week 9: June 12 – 16, 2023 Week 10: June 19 – 23, 2023 Week 11: June 26 – 30, 2023		
Term 3 Revision and End-of-Term Exam Exam date to be determined by the Assessment Directorate		



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