شكراً لتحميلك هذا الملف من موقع المناهج الإماراتية

الخطة الفصلية المسار المتقدم - ريفيل

التواصل الاجتماعي بحسب الصف العاشر المتقدم

روابط مواد الصف العاشر المتقدم على تلغرام

التربية الاسلامية	اللغة العربية	اللغة الانجليزية	الرياضيات

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

1	دليل تصحيح أسئلة الامتحان النهائي بريدج
2	أسئلة الامتحان النهائي الالكتروني بريدج
3	أسئلة الامتحان النهائي الورقي بريدج
4	حل أسئلة الاختبار التحريبي نخبة
5	حل أسئلة الاختبار التحريبي ريفيل

UNITED ARAB EMIRATES
MINISTRY OF EDUCATION

الإمارات العربية المتحدة
وزارة التربية والتعليم

Grade 10 Advanced Stream
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.

تم تحميل هذا الملف من موقع المناهج الإماراتية
aManahj.com/ae

Week 1: April 17 – 21, 2023 (Ramadan ends ~April 20; Eid al-Fitr ~April 20 – 23)		
Integrated III Module 2 – Polynomials and Polynomial Functions		
Lessons	**Student Learning Outcomes**	**Common Core State Standards**
M2L1 – Polynomial Functions	• Graph and analyze power functions. • Graph and analyze polynomial functions.	**F.IF.4** For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. *Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity.* **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. **F.IF.7c** Graph polynomial functions, identifying zeros when suitable factorizations are available, and showing end behavior.

تم تحميل هذا الملف من
موقع المناهج الإماراتية
alManahj.com/ae

Week 2: April 24 – 28, 2023		
Lessons	**Student Learning Outcomes**	**Common Core State Standards**
M2L2 – Analyzing Graphs of Polynomial Functions	• Approximate zeros by graphing polynomial functions. • Find extrema of polynomial functions.	**F.IF.4** For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. *Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity.* **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. **F.IF.7c** Graph polynomial functions, identifying zeros when suitable factorizations are available, and showing end behavior.
M2L3 – Operations with Polynomials	• Add and subtract polynomials. • Multiply polynomials.	**A.APR.1** Understand that polynomials form a system analogous to the integers, namely, they are closed under the operations of addition, subtraction, and multiplication; add, subtract, and multiply polynomials.

تم تحميل هذا الملف من موقع المناهج الإماراتية
alManahj.com/ae

Week 3: May 1 – 5, 2023		
Lessons	**Student Learning Outcomes**	**Common Core State Standards**
M2L4 – Dividing Polynomials	• Divide polynomials by using long division. • Divide polynomials by using synthetic division.	**A.APR.6** Rewrite simple rational expressions in different forms; write $\frac{a(x)}{b(x)}$ in the form $q(x) + \frac{r(x)}{b(x)}$, where $a(x)$, $b(x)$, $q(x)$, and $r(x)$ are polynomials with the degree of $r(x)$ less than the degree of $b(x)$, using inspection, long division or, for the more complicated examples, a computer algebra system.
M2L5 – Powers of Binomials	• Expand powers of binomials by using Pascal's Triangle and the Binomial Theorem.	**A.APR.5** Know and apply the Binomial Theorem for the expansion of $(x + y)^n$ in powers of x and y for a positive integer n, where x and y are any numbers, with coefficients determined for example by Pascal's Triangle.

تم تحميل هذا الملف من
موقع المناهج الإماراتية
alManahj.com/ae

Week 4: May 8 – 12, 2023		
Integrated III Module 3 – Polynomial Equations		
Lessons	**Student Learning Outcomes**	**Common Core State Standards**
M3L1 – Solving Polynomial Equations by Graphing	• Solve polynomial equations by graphing.	**A.CED.1** Create equations and inequalities in one variable and use them to solve problems. *Include equations arising from linear and quadratic functions, and simple rational and exponential functions.* **A.REI.11** Explain why the x-coordinates of the points where the graphs of the equations $y = f(x)$ and $y = g(x)$ intersect are the solutions of the equation $f(x) = g(x)$; find the solutions approximately, e.g., using technology to graph the functions, make tables of values, or find successive approximations. Include cases where $f(x)$ and/or $g(x)$ are linear, polynomial, rational, absolute value, exponential, and logarithmic functions.
M3L2 – Solving Polynomial Equations Algebraically	• Solve polynomial equations by factoring. • Solve polynomial equations by writing them in quadratic form and factoring.	**A.CED.1** Create equations and inequalities in one variable and use them to solve problems. *Include equations arising from linear and quadratic functions, and simple rational and exponential functions.*

موقع المناهج الإماراتية
alManahj.com/ae

Week 5: May 15 – 19, 2023		
Lessons	**Student Learning Outcomes**	**Common Core State Standards**
M3L4 – The Remainder and Factor Theorems	• Evaluate functions by using synthetic substitution. • Use the Factor Theorem to determine factors of polynomials.	**A.APR.2** Know and apply the Remainder Theorem: For a polynomial $p(x)$ and a number a, the remainder on division by $x - a$ is $p(a)$, so $p(a) = 0$ if and only if $(x - a)$ is a factor of $p(x)$.
M3L5 – Roots and Zeros	• Use the Fundamental Theorem of Algebra to determine the numbers and types of roots of polynomial equations. • Determine the numbers and types of roots of polynomial equations, find zeros, and use zeros to graph polynomial functions.	**N.CN.9** Know the Fundamental Theorem of Algebra; show that it is true for quadratic polynomials. **A.APR.3** Identify zeros of polynomials when suitable factorizations are available, and use the zeros to construct a rough graph of the function defined by the polynomial. **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. **F.IF.7c** Graph polynomial functions, identifying zeros when suitable factorizations are available, and showing end behavior.

تم تحميل هذا الملف من
موقع المناهج الإماراتية
alManahj.com/ae

Week 6: May 22 – 26, 2023		
Integrated III Module 4 – Inverses and Radical Functions		
Lessons	**Student Learning Outcomes**	**Common Core State Standards**
M4L1 – Operations on Functions	• Find sums, differences, products, and quotients of functions. • Find compositions of functions.	**F.BF.1** Write a function that describes a relationship between two quantities. **F.BF.1b** Combine standard function types using arithmetic operations.
M4L2 – Inverse Relations and Functions	• Find inverses of relations. • Verify that two relations are inverses by using compositions.	**F.IF.5** Relate the domain of a function to its graph and, where applicable, to the quantitative relationship it describes. **F.BF.4** Find inverse functions. **F.BF.4a** Solve an equation of the form $f(x) = c$ for a simple function f that has an inverse and write an expression for the inverse.

تم تحميل هذا الملف من
موقع المناهج الإماراتية
alManahj.com/ae

Week 7: May 29 – June 2, 2023		
Lessons	**Student Learning Outcomes**	**Common Core State Standards**
M4L3 – nth Roots and Rational Exponents	• Simplify expressions involving radicals and rational exponents. • Simplify expressions in exponential or radical form.	**A.SSE.2** Use the structure of an expression to identify ways to rewrite it.
M4L4 – Graphing Radical Functions	• Graph and analyze square root functions. • Graph and analyze cube root functions.	**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. **F.IF.7b** Graph square root, cube root, and piecewise-defined functions, including step functions and absolute value functions. **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. *Include recognizing even and odd functions from their graphs and algebraic expressions for them.*
M4L5 – Operations with Radical Expressions	• Simplify radical expressions. • Add, subtract, and multiply radicals. • Divide and simplify radical expressions by rationalizing the denominator.	**A.SSE.2** Use the structure of an expression to identify ways to rewrite it.

تم تحميل هذا الملف من
موقع المناهج الإماراتية
alManahj.com/ae

Week 8: June 5 – 9, 2023		
Lessons	**Student Learning Outcomes**	**Common Core State Standards**
M4L6 – Solving Radical Equations	• Solve radical equations in one variable and identify extraneous solutions. • Solve radical equations by graphing systems of equations.	**A.REI.2** Solve simple rational and radical equations in one variable, and give examples showing how extraneous solutions may arise.

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**

تم تحميل هذا الملف من
موقع المناهج الإماراتية
alManahj.com/ae