

Math 2

Module 1

1.1

READY

Distributive Property

https://www.wyzant.com/resources/lessons/math/algebra/distributive_property

<https://www.youtube.com/watch?v=wPXmM194RY0>

<https://www.youtube.com/watch?v=4bD8DOXBOeo>

SET

Identifying linear, quadratic and exponential functions from a table

<https://www.youtube.com/watch?v=6kaTDzuaxWo>

<https://www.ixl.com/math/algebra-1/identify-linear-quadratic-and-exponential-functions>

<https://www.ck12.org/algebra/Linear-Exponential-and-Quadratic-Models/lesson/Linear>

GO

Finding rate of change

<http://www.virtualnerd.com/algebra-1/linear-equation-analysis/slope-rate-of-change/>

1.2

READY

Simplifying expressions using the distributive property and combining like terms

<https://www.khanacademy.org/math/algebra/introduction-to-algebra/alg1-manipulating>

<https://www.wyzant.com/resources/lessons/math/algebra/combining-like-terms>

SET

Comparing areas and perimeters

<https://www.khanacademy.org/math/cc-third-grade-math/cc-third-grade-measurement/>

<http://www.mathsisfun.com/area.htm>

<https://www.mathsisfun.com/geometry/perimeter.html>

GO

Finding greatest common factor

<http://www.math.com/school/subject1/lessons/S1U3L2GL.html>

<https://www.mathsisfun.com/greatest-common-factor.html>

<https://www.khanacademy.org/math/pre-algebra/pre-algebra-factors-multiples/>

1.3

READY

Multiplying Binomials

<https://www.khanacademy.org/math/algebra/introduction-to-polynomial-expressions/>

<https://www.youtube.com/watch?v=VRHxLpyOHvQ>

<https://mathbitsnotebook.com/Algebra1/Polynomials/PObinomial.html>

<http://www.coolmath.com/prealgebra/15-intro-to-polynomials/06-polynomials-multiplying-foil>

<http://www.virtualnerd.com/algebra-1/polynomials-and-factoring/multiply-divide/foil-multiplicaton/>

SET

Quadratic Patterns

[http://coccweb.cocc.edu/srule/MTH105/homework/2quadraticmodeling\(text\).pdf](http://coccweb.cocc.edu/srule/MTH105/homework/2quadraticmodeling(text).pdf)

GO

Interpreting Recursive Sequences

<https://www.khanacademy.org/math/algebra/sequences/constructing-arithmetic-sequences/a/>

<https://www.khanacademy.org/math/algebra/sequences/general-sequences/v/>

1.4

READY

Applying the Slope Formula

https://www.youtube.com/watch?v=_f_EcNNhXjl

<http://cls.syr.edu/mathtuneup/grapha/Unit4/Unit4a.html>

<https://www.khanacademy.org/math/algebra/two-var-linear-equations/slope/v/slope-of-a-line-2>

SET

Perimeter and area

<https://www.mathplanet.com/education/pre-algebra/inequalities-and-one-step-equations/>

GO

Slope and rate of change

<https://www.khanacademy.org/math/algebra/two-var-linear-equations/slope/v/>

1.5

READY

Recognizing a function

<http://sciencing.com/ways-tell-something-function-8602995.html>

<https://www.youtube.com/watch?v=ryQJa8ybxVY>

SET

Distance-time graphs

<https://www.youtube.com/watch?v=9LQdLDDEJ1g>

GO

Finding domain and range from a graph

<http://home.windstream.net/okrebs/page41.html>

1.6

READY

Transforming lines

https://www.youtube.com/watch?v=va3q_IRIqKQ

SET

Comparing Linear, Exponential, and Quadratic Functions

<https://www.youtube.com/watch?v=9Bu0Hkxw88g>

GO

Comparing Linear, Exponential, and Quadratic Functions

<https://www.youtube.com/watch?v=OcrmqS7IhCM>

Module 2

2.1

READY

Characteristics of Quadratics

<https://www.youtube.com/watch?v=H46QVUdbBn0>

SET

Transformations of quadratics

<https://mathspace.co/learn/world-of-maths/quadratic-equations/transformations>

GO

Finding square roots

<http://www.purplemath.com/modules/radicals2.htm>

<https://www.youtube.com/watch?v=JAd-S866S8o>

http://www.softschools.com/math/algebra/topics/simplifying_radical_expressions_with_variables

2.2

READY

Standard form of quadratic equations

<https://www.mathsisfun.com/algebra/quadratic-equation.html>

Expanding two binomials

<https://www.youtube.com/watch?v=P0bflLENX5s>

SET

Quadratic transformations

<http://www.purplemath.com/modules/fcntrans.htm>

Graphing a quadratic in vertex form

<https://www.khanacademy.org/math/algebra/quadratics/vertex-form-alg1/v/graphing-a-parabola>

Graphing a standard $y=x^2$ parabola

<https://www.youtube.com/watch?v=x4XI0bv3xBY>

GO

Key features of a parabola

<https://www.youtube.com/watch?v=UVWTK8P86to>

2.3

READY

Calculating x and y intercepts from standard quadratic equation

<https://www.youtube.com/watch?v=MqIpwRD-bLA>

Graphing lines using x and y intercepts

<https://www.khanacademy.org/math/algebra-home/alg-linear-eq-func/alg-x-and-y-intercepts/v/>

SET

Completing the square

<https://www.khanacademy.org/math/algebra/quadratics/solving-quadratics/a/>

<https://www.khanacademy.org/math/algebra/quadratics/solving-quadratics/v/>

<http://www.purplemath.com/modules/sqrquad.htm>

<https://www.youtube.com/watch?v=KiHDyNT0f4Q>

<https://www.youtube.com/watch?v=Oge1J43ed-g>

GO

Horizontal and vertical lines

http://www.mathsteacher.com.au/year8/ch15_graphs/05_hor/ver.htm

2.4

READY

Parabola intercepts

<http://www.mathwarehouse.com/geometry/parabola/parabola-intercepts.php>

SET

Completing the square when a isn't 1

http://www.softschools.com/math/algebra/topics/completing_the_square_when_a_notequal_1/
http://www.mesacc.edu/~scotz47781/mat120/notes/quadratics/comp_square_a_is_not_1.html
<https://www.youtube.com/watch?v=epMHKhpYqJE>

Basic factoring

<https://www.mathsisfun.com/algebra/factoring.html>

GO

Evaluating functions

<http://www.mathsisfun.com/algebra/functions-evaluating.html>

2.5

READY

Recognizing quadratic functions

<https://www.ck12.org/book/CK-12-Middle-School-Math-Concepts-Grade-8/section/12.14/>

SET

Converting quadratics from standard form to vertex form

<https://mathbitsnotebook.com/Algebra1/Quadratics/QDVertexForm.html>

<https://www.khanacademy.org/math/algebra/quadratics/quad-standard-form-alg1/v/>

<http://virtualnerd.com/algebra-2/quadratics/solve-by-completing-square-roots/complete-square/>

<http://www.purplemath.com/modules/sqrvertex.htm>

GO

Writing recursive formulas for quadratics

https://www.youtube.com/watch?v=EwvES_N49yw

<https://www.educations.com/lesson/view/quadratic-recursive-formula/10840030/>

2.6

READY

Creating binomial quadratics (questions 9-12)

<https://www.khanacademy.org/math/algebra/introduction-to-polynomial-expressions/>

SET

Factoring Trinomials

<https://www.youtube.com/watch?v=fmLM8xt-Ylg>

<http://www.mathwarehouse.com/algebra/factor/how-to-factor-trinomials-step-by-step.php>

<https://www.khanacademy.org/math/algebra-home/alg-polynomials/alg-factoring-polynomials>

GO

Finding perfect square trinomials

<https://mathbitsnotebook.com/Algebra1/Factoring/FCPerfSqTri.html>

2.7

READY

Density of rational numbers

<https://www.youtube.com/watch?v=lg04THe8wfY>

SET

Factoring quadratics

<https://www.youtube.com/watch?v=fmLM8xt-Ylg>

<http://www.purplemath.com/modules/factquad.htm>

GO

Graphing parabolas in vertex form

<https://www.khanacademy.org/math/algebra/quadratics/vertex-form-alg1/v/>

2.8H

Factoring quadratics when a isn't 1

<http://www.purplemath.com/modules/factquad2.htm>

2.9

READY

Multiplying binomials using a table

<https://www.youtube.com/watch?v=PcUpE0NierM>

<https://www.youtube.com/watch?v=TgpAYS5mP3k>

<http://www.brainfuse.com/curriculumupload//1341260717771.html>

SET

Identifying features of a quadratic in factored form

<https://www.khanacademy.org/math/algebra/quadratics/features-of-quadratic-functions/v/>

Graphing quadratics in factored form

<https://www.khanacademy.org/math/algebra/quadratics/factored-form-alg1/v/>

Finding Vertical Stretch

<https://www.youtube.com/watch?v=O8rs4NtbP0I>

GO

Finding features of quadratics in vertex form

<https://www.khanacademy.org/math/algebra/quadratics/features-of-quadratic-functions/v/>

2.10

READY

Different forms of quadratic functions

<https://www.khanacademy.org/math/algebra/quadratics/features-of-quadratic-functions/v/>

SET

Converting between forms of a quadratic

<https://www.youtube.com/watch?v=1f9mrbak9sc>

Writing quadratic equations from a table

Into vertex form: <https://www.youtube.com/watch?v=3pNIACKtblo>

Straight into standard form: <https://www.youtube.com/watch?v=Sje8fgdBY2Y>

GO

Multiplying binomials

<https://mathbitsnotebook.com/Algebra1/Polynomials/PObinomial.html>

Factoring

<https://www.khanacademy.org/math/algebra/polynomial-factorization/factoring-quadratics-1/v/>

Module 3

3.1

READY

Comparing Additive and Multiplicative Patterns

<https://www.youtube.com/watch?v=F4HiKiQ30dM>

SET

Evaluating fractional exponents

<https://www.khanacademy.org/math/algebra/polynomial-factorization/factoring-quadratics-1/v/>

Writing exponential equations given a table

https://learnzillion.com/lesson_plans/7695-write-and-graph-an-exponential-function

(Start at 2:40)

<https://www.khanacademy.org/math/algebra/introduction-to-exponential-functions/>

GO

Simplifying Exponents

<http://www.purplemath.com/modules/simpexpo.htm>

<http://patrickjmt.com/exponents-evaluating-expressions-numbers-only-no-variables-ex-1/>

3.2

READY

Simplifying Radicals

<http://www.mesacc.edu/~scotz47781/mat120/notes/radicals/simplify/simplifying.html>

<https://www.khanacademy.org/math/in-eighth-grade-math/squares-square-roots/square-roots/v/>

<https://www.youtube.com/watch?v=CAPjNhNRjno>

<https://www.youtube.com/watch?v=Ef2gOQbDv7M>

<https://www.youtube.com/watch?v=gF5AAAd025Dk>

SET

Finding arithmetic means

<https://www.youtube.com/watch?v=H8CJ0TUic9M>

Finding geometric means

<https://www.youtube.com/watch?v=YOWf09ZAf0>

GO

Solving exponential equations

<http://www.purplemath.com/modules/solvexpo.htm>

3.3

READY

Rules of Exponents

<http://www.math.com/school/subject2/lessons/S2U2L2DP.html>

<https://www.khanacademy.org/math/in-eighth-grade-math/exponents-powers-1/laws-exponents/>

<http://www.purplemath.com/modules/exponent.htm>

SET

Rules of Exponents

<http://www.math.com/school/subject2/lessons/S2U2L2DP.html>

<https://www.khanacademy.org/math/in-eighth-grade-math/exponents-powers-1/laws-exponents/>

<http://www.purplemath.com/modules/exponent.htm>

GO

Rules of Exponents

<http://www.math.com/school/subject2/lessons/S2U2L2DP.html>

<https://www.khanacademy.org/math/in-eighth-grade-math/exponents-powers-1/laws-exponents/>

<http://www.purplemath.com/modules/exponent.htm>

3.4

READY

Finding a b and c values in a quadratic

<http://www.virtualnerd.com/algebra-1/quadratic-equations-functions/graphing/graph-basics/>

SET

Switching between radical form and exponential form

https://www.youtube.com/watch?v=L5Z_3RrVjA

<http://www.montereyinstitute.org/courses/DevelopmentalMath/>

http://www.algebra-lab.org/studyaids/studyaid.aspx?file=Algebra2_7-2.xml

Fractional and Rational Exponents

<http://www.purplemath.com/modules/exponent5.htm>

GO

Finding x-intercepts from an equation

<http://www.purplemath.com/modules/intrcept.htm>

<https://www.khanacademy.org/math/algebra/two-var-linear-equations/x-and-y-intercepts/v/>

3.5

Graphing Quadratics when given Standard Form

http://www.mesacc.edu/~scotz47781/mat120/notes/graph_quads/not_vertex_form/

READY

Converting measurements of area

<http://www.mathsisfun.com/area-conversion.html>

<https://www.youtube.com/watch?v=nv26rlqbc4g>

SET

Transforming Quadratics

<https://www.khanacademy.org/math/algebra/quadratics/transforming-quadratic-functions/v/>

GO

Evaluating functions with function notation

<https://mathbitsnotebook.com/Algebra1/Functions/FNNotationEvaluation.html>

3.6

Finding X-intercepts for linear equations

<https://www.khanacademy.org/math/algebra/two-var-linear-equations/x-and-y-intercepts/v/>

(0:00-1:08) <http://virtualnerd.com/algebra-1/linear-equation-analysis/intercept/>

https://www.montereyinstitute.org/courses/Algebra1/COURSE_TEXT_RESOURCE/

SET

Solving Quadratics

<http://www.sosmath.com/algebra/solve/solve4/s43/s43.html>

<https://www.khanacademy.org/math/algebra/quadratics/solving-quadratics>

<http://www.purplemath.com/modules/quadform.htm>

GO

Factoring

<https://www.mathsisfun.com/algebra/factoring.html>

3.7

READY

Maximizing area in a rectangle

<https://math.stackexchange.com/questions/128825/maximum-area-of-rectangle>

SET

Solving quadratic equations

<https://www.khanacademy.org/math/algebra/quadratics/solving-quadratic-equations-by-factoring>

GO

Finding the vertex/axis of symmetry given standard form

<http://virtualnerd.com/algebra-1/quadratic-equations-functions/graphing/>

3.8

How to write a quadratic function given a graph

<http://www.intmath.com/blog/mathematics/how-to-find-the-equation-of-a-quadratic-function>

<https://www.youtube.com/watch?v=vAPPYoBV2Ow>

READY

Simplifying radicals

<https://www.khanacademy.org/math/in-eighth-grade-math/squares-square-roots/>

SET

Determining the nature of x-intercepts in quadratics

<http://www.lemars.k12.ia.us/webfiles/mboyd/Algebra>

<http://www.purplemath.com/modules/numtypes.htm>

<https://www.universalclass.com/articles/math/pre-calculus/>

<https://www.thoughtco.com/x-intercept-of-a-quadratic-function-2311852>

GO

Using the quadratic formula

<https://www.khanacademy.org/math/algebra/quadratics/solving-quadratics>

3.9

READY

Classifying numbers

<https://www.khanacademy.org/math/cc-eighth-grade-math/cc-8th-numbers-operations/>

SET

Simplifying radicals with imaginary numbers

http://www.mathematicsvisionproject.org/uploads/1/1/6/3/11636986/m2_mod3_se_52017f.pdf

<https://www.youtube.com/watch?v=ob4wl7af2W0>

GO

Using the discriminant to determine the nature of roots

<https://www.siyavula.com/maths/grade-11/02-equations-and-inequalities/02>

3.10

READY

Student response

SET

Types of numbers

<http://www.purplemath.com/modules/numtypes.htm>

GO

Simplifying radical expressions

<https://www.mathplanet.com/education/algebra-1/radical-expressions/simplify-radical>

3.11

READY

Factoring polynomials

<http://tutorial.math.lamar.edu/Classes/Alg/Factoring.aspx>

http://www.jamesbrennan.org/algebra/polynomials/factoring_polynomials.htm

SET

Quadratic inequalities

<https://www.khanacademy.org/math/algebra-home/alg-quadratics/alg-quadratic-inequalities/v/>

<https://www.youtube.com/watch?v=t54ccHYVhoo>

<https://www.cliffsnotes.com/study-guides/algebra/algebra-ii/quadratics-in-one-variable/>

GO

Writing quadratic equations in vertex form

<https://mathbitsnotebook.com/Algebra1/Quadratics/QDVertexForm.html>

3.12H

Solving systems of linear equations

Substitution: <http://www.purplemath.com/modules/systlin4.htm>

Elimination: <http://www.coolmath.com/algebra/12-2x2-systems-of-equations/03>

Creating an augmented matrix

<http://tutorial.math.lamar.edu/Classes/Alg/AugmentedMatrix.aspx>

<https://www.youtube.com/watch?v=cAuIFpFaHmg>

Operations on complex numbers

<http://www.purplemath.com/modules/complex2.htm>

<https://www.youtube.com/watch?v=GH2fzLCCdKc>

Rationalizing the denominator using the conjugate

<https://www.khanacademy.org/math/algebra-home/alg-exp-and-log/miscellaneous-radicals/v/>

<https://www.youtube.com/watch?v=asqQ7CVTC3k>

<http://www.purplemath.com/modules/radicals5.htm>

Calculating the modulus of a complex number

<https://www.easycalculation.com/algebra/learn-modulus-complex-numbers.php>

<http://www.mathcentre.ac.uk/resources/>

<https://www.youtube.com/watch?v=-uMnuwIV5xw>

3.13H

Rational exponents

<https://www.khanacademy.org/math/algebra/rational-exponents-and-radicals/>

http://www.mathwords.com/r/rational_exponents.htm

Solving systems with 3 unknowns

<https://www.khanacademy.org/math/algebra-home/alg-system-of-equations/>

<http://www.sparknotes.com/math/algebra2/systemsofthreeequations/section1.rhtml>

<https://www.mathplanet.com/education/algebra-2/how-to-solve-system-of-linear-equations/>

Module 4

4.1

READY

Finding function values from a graph

<https://www.youtube.com/watch?v=aEIUAe7aYEA>

SET

Writing piecewise functions from a graph

<https://www.youtube.com/watch?v=IHf0NYr90VE>

<https://www.youtube.com/watch?v=oMYEXTnv2f0>

https://www.youtube.com/watch?v=H_UYLB Eqv4M

<https://mrcarmack.wikispaces.com/file/view/9-24-12-Piecewise+Day+2.pdf>

GO

Using point-slope form

<http://www.purplemath.com/modules/strtlneq2.htm>

4.2

READY

Solving absolute value equations

<http://www.sosmath.com/algebra/solve/solve3/s31/s31/s31.html>

<http://www.purplemath.com/modules/solveabs.htm>

<https://www.khanacademy.org/math/algebra-home/alg-absolute-value/>

<https://www.youtube.com/watch?v=L5VyuYZ-4tl>

SET

Domain and range of piecewise functions

<https://www.khanacademy.org/math/algebra/absolute-value-equations>

<https://courses.lumenlearning.com/ivytech-collegealgebra/chapter/find-domain-and-range>

GO

Review on transforming quadratics

https://www.varsitytutors.com/hotmath/hotmath_help/topics/graphing-quadratic-equations

4.3

READY

Finding x-intercepts of quadratic equations

<https://www.khanacademy.org/math/algebra/quadratics/quad-standard-form-alg1/v/>

SET

Writing absolute value equations

<https://www.youtube.com/watch?v=kl9aWdDwspA>

GO

Evaluating absolute value expressions

<http://www.purplemath.com/modules/absolute.htm>

4.4

READY

Reflecting an image over $y=x$ (scroll down a bit)

<https://mathbitsnotebook.com/Algebra1/FunctionGraphs/FNGTransformationReflection.html>

https://www.varsitytutors.com/hotmath/hotmath_help/topics/reflections

SET

How does absolute value affect numbers

<http://www.coolmath.com/algebra/18-absolute-value-equations-inequalities/01>

GO

Simplifying radical expressions with addition and subtraction

<https://www.khanacademy.org/math/algebra-home/alg-exp-and-log/miscellaneous-radicals/v/>

<https://www.khanacademy.org/math/algebra-home/alg-exp-and-log/miscellaneous-radicals/v/>

4.5

READY

Finding side length of square given area

<https://www.youtube.com/watch?v=r4fgvdk9gll>

Factoring perfect square trinomials

<https://www.khanacademy.org/math/algebra/polynomial-factorization/factoring-quadratics>

SET

Inverse functions

<https://www.khanacademy.org/math/algebra2/manipulating-functions/introduction-to-inverses>

<https://www.mathsisfun.com/sets/function-inverse.html>

<https://www.youtube.com/watch?v=kibPuvGKhB4>

GO

Multiplying square roots

(Scroll to *Multiplying Square Roots*) <http://www.purplemath.com/modules/radicals2.htm>

4.6

READY

Determining if a function is continuous

<https://www.youtube.com/watch?v=YYChKD0AsRc>

<http://mathbits.com/MathBits/TISection/General/GraphContDiscrete.html>

SET

Square root functions

https://www.varsitytutors.com/hotmath/hotmath_help/topics/graphing-square-root-functions

Finding an inverse function from a table

<https://www.youtube.com/watch?v=TSztRfzmK0M>

GO

Solving for variable in a literal equation

https://mcckc.edu/tutoring/docs/bt/algebra/Solving_Literal_Equations_Methods.pdf

4.7

READY

Geometry symbols

http://www.rapidtables.com/math/symbols/Geometry_Symbols.htm

SET

Features of functions

<https://mathbitsnotebook.com/Algebra1/FunctionGraphs/FNGFunctionFeatures.html>

GO

Finding the inverse function

<http://www.purplemath.com/modules/invrscfn3.htm>

<http://www.coolmath.com/algebra/16-inverse-functions/05>

Writing an absolute value function as a piecewise

<https://www.youtube.com/watch?v=71SfBO-B4dE>

Math 3

Module 1

1.1

READY

Undoing equations with inverse operations

<https://www.mathsisfun.com/numbers/inverse.html>

SET

Writing inverse functions

<http://www.coolmath.com/algebra/16-inverse-functions/05>

<https://www.youtube.com/watch?v=Ke1ANRRLjPs>

GO

Using function notation to evaluate

<https://mathbitsnotebook.com/Algebra1/Functions/FNNotationEvaluation.html>

Operations within functions ($f(a+b)$)

<https://www.mathsisfun.com/sets/functions-operations.html>

1.2

READY

Solving an equation for a variable

<https://www.khanacademy.org/math/algebra-home/alg-basic-eq-ineq/alg-old-school-equations/v/>

<http://www.virtualnerd.com/algebra-1/linear-equations-solve/isolate-variables>

SET

Graphing inverses

<http://www.dummies.com/education/math/calculus/how-to-graph-the-inverse-of-a-function/>

GO

Operations within functions

<https://www.mathsisfun.com/sets/functions-operations.html>

1.3

READY

Solving exponential equations

<http://www.sosmath.com/algebra/logs/log4/log46/log46.html>

<https://www.youtube.com/watch?v=M6f6dANVyxA>

<http://www.mathwarehouse.com/algebra/exponents/solve-exponential-equations-how-to.php>

SET

Writing the logarithmic form of an exponential equation

http://www.analyze-math.com/logfunction/logarithm_exponential.html

<https://www.boundless.com/algebra/textbooks/boundless-algebra-textbook/exponents-log>

GO

Combining functions in function notation

<https://www.mathsisfun.com/sets/functions-composition.html>

1.4

READY

Product and quotient rule for simplifying exponents review

<http://www.montereyinstitute.org/courses/DevelopmentalMath/>

<http://www2.sunysuffolk.edu/buckl/E.%20Operations%20with%20Polynomials/>

SET

Rewriting logarithms

<http://www.virtualnerd.com/algebra-2/exponential-logarithmic-functions/>

Logarithms

<https://www.youtube.com/watch?v=ZlwMz9m0byI>

GO

Composite functions

<https://www.mathsisfun.com/sets/functions-composition.html>

1.5

READY

Properties of fractional exponents

<http://www.mathwarehouse.com/algebra/exponents/fraction-exponents/>

SET

Graphing the inverse of a function

<http://www.purplemath.com/modules/invrscfn.htm>

GO

Finding composite functions

<https://www.khanacademy.org/math/algebra2/manipulating-functions/function-composition/v/>

Module 2

2.1

READY

Graphing exponential functions

<http://www.purplemath.com/modules/graphexp.htm>

http://www.mesacc.edu/~scotz47781/mat120/notes/exponential/graphing/graph_exp_intro.pdf

SET

Evaluating logarithmic functions

<https://mathspace.co/learn/world-of-maths/logarithms/evaluate-logarithmic-functions>

<https://www.khanacademy.org/math/algebra2/exponential-and-logarithmic-functions/>

GO

Properties of exponents guide

<http://www2.sunysuffolk.edu/buckl/E.%20Operations>

2.2

READY

Solving simple logarithmic functions

<https://www.youtube.com/watch?v=7FNU5tEUn9k>

<http://tutorial.math.lamar.edu/Classes/Alg/LogFunctions.aspx>

<https://www.khanacademy.org/math/algebra2/exponential-and-logarithmic-functions/>

SET

Graphing logarithmic functions

<https://www.khanacademy.org/math/algebra2/exponential-and-logarithmic-functions/>

https://www.varsitytutors.com/hotmath/hotmath_help/topics/graphing-logarithmic-functions

<https://www.youtube.com/watch?v=iEfefQZkhmA>

<https://courses.lumenlearning.com/precalcone/chapter/graphing-transformations>

GO

Power rule for simplifying exponents review

<http://www.mesacc.edu/~scotz47781/mat120/notes/exponents/review/review.html>

2.3

READY

Fractional Exponents

<https://www.mathsisfun.com/algebra/exponent-fractional.html>

<http://www.mathwarehouse.com/algebra/exponents/fraction-exponents/>

<https://www.youtube.com/watch?v=8HfWGjQNIhk>

SET

Properties of Logarithms

<http://www.purplemath.com/modules/logrules.htm>

https://www.youtube.com/watch?v=PJRt_2dQCds

<https://www.khanacademy.org/math/algebra2/exponential-and-logarithmic-functions/>

GO

Converting between logarithmic and exponential forms

<https://www.khanacademy.org/math/algebra2/exponential-and-logarithmic-functions/>

2.4

READY

Logarithmic identities

http://www.web-formulas.com/Math_Formulas/Algebra_Logarithmic_Identity.aspx

SET

Rewriting logs in terms of other logs

https://www.youtube.com/watch?v=j1_QcmMVH2w

<https://www.youtube.com/watch?v=9-dn3XMiXRw>

Writing equivalent logarithmic expressions

<https://www.khanacademy.org/math/algebra2/exponential-and-logarithmic-functions/>

GO

Definition of logarithm

<https://www.mathsisfun.com/definitions/logarithm.html>

2.5

READY

Comparing logarithmic and exponential graphs

https://www.youtube.com/watch?v=K_PiPfyxtao

SET

Solving logarithmic equations

<http://www.montereyinstitute.org/courses/DevelopmentalMath/>

<https://www.youtube.com/watch?v=cbTxKfXrRs4>

GO

Compound interest

<http://www.purplemath.com/modules/expofcns4.htm>

Module 3

3.1

READY

Writing inequalities

https://www.montereyinstitute.org/courses/Algebra1/COURSE_TEXT_RESOURCE/

SET

Determining the type of function

<https://www.ck12.org/algebra/Linear-Exponential-and-Quadratic-Models/lesson/>

https://learnzillion.com/lesson_plans/6663-distinguish-between-linear-and-exponential-functions

GO

Combining functions algebraically

<http://tutorial.math.lamar.edu/Classes/Alg/CombineFunctions.aspx>

<https://www.mathsisfun.com/sets/functions-operations.html>

3.2

READY

Combining functions graphically

<https://www.youtube.com/watch?v=5NIUyUdLbNE>

<https://www.youtube.com/watch?v=gHODXrghT60>

<http://www.sparknotes.com/math/algebra2/operationswithfunctions/section1.rhtml>

SET

Evaluating exponents of a negative number

<http://www.aaamath.com/exp-int-eval-exp.htm>

<http://www.purplemath.com/modules/negative4.htm>

GO

Combining like terms in polynomials

<https://www.ck12.org/book/CK-12-Middle-School-Math-Concepts-Grade-8/section/12.3/>

3.3

READY

Determining end behavior

<https://www.khanacademy.org/math/algebra2/polynomial-functions/polynomial-end-behavior/v/>

SET

End behavior

https://www.varsitytutors.com/hotmath/hotmath_help/topics/end-behavior-of-a-function

<https://www.khanacademy.org/math/algebra2/polynomial-functions/polynomial-end-behavior/a/>

GO

Factoring difference of two squares

http://www.mesacc.edu/~scotz47781/mat120/notes/factoring/diff_of_squares/

3.4

READY

Factoring

<https://www.khanacademy.org/math/algebra/polynomial-factorization/factoring-quadratics-1/v/>

Factoring difference of two squares

http://www.mesacc.edu/~scotz47781/mat120/notes/factoring/diff_of_squares/

SET

Combining functions by multiplication algebraically

http://www.mesacc.edu/~scotz47781/mat120/notes/polynomials/functions/mult_functions.html

GO

Simplifying exponential expressions

http://www.montereyinstitute.org/courses/Algebra1/COURSE_TEXT_RESOURCE/

Factoring difference of two cubes

(Scroll to *Difference of Cubes*) <https://www.montereyinstitute.org/courses/>

3.5

READY

Features of square root functions

<https://mathbitsnotebook.com/Algebra1/FunctionGraphs/FNGTypeSquareRoot.html>

Features of logarithmic functions

<https://people.richland.edu/james/lecture/m116/logs/logs.html>

SET

Features of polynomial functions

http://mrswalkerhchs.weebly.com/uploads/3/2/1/0/32104591/chapter_2_-_2.3_-_key_features
<https://www.youtube.com/watch?v=aJ-tv5R1dG4>

GO

Domain and range of square root function

<http://www.montereyinstitute.org/courses/DevelopmentalMath/>

Domain and range of logarithmic function

https://www.varsitytutors.com/hotmath/hotmath_help/topics/domain-and-range

3.6

READY

Factoring special products (quadratic)

<http://www.wtamu.edu/academic/anns/mps/math/mathlab/>

<https://www.youtube.com/watch?v=z8N23ZRcjxA>

<https://www.sophia.org/tutorials/factoring-special-products-perfect-square-trinomia>

Factoring special products (cubic)

<http://www.purplemath.com/modules/specfact2.htm>

SET

Finding zeros of polynomials

<https://www.khanacademy.org/math/algebra2/polynomial-functions/finding-zeros-of-polynomials/>

GO

Multiplying polynomials

<https://www.khanacademy.org/math/algebra/introduction-to-polynomial-expressions/>

3.7

READY

Graphing polynomials greater than 2nd degree

<http://tutorial.math.lamar.edu/Classes/Alg/GraphingPolynomials.aspx>

SET

Finding factors of sum/difference of two cubes

<https://www.cliffsnotes.com/study-guides/algebra/algebra-ii/factoring-polynomials/>

Using the remainder theorem to prove roots and synthetic division

https://www.wyzant.com/resources/lessons/math/algebra/remainder_theorem

GO

Polynomial remainder theorem

<https://www.khanacademy.org/math/algebra2/arithmetc-with-polynomials/polynomial-remainder>

Fundamental theorem of algebra

<https://www.khanacademy.org/math/algebra2/polynomial-functions/fundamental-theorem>

3.8

READY

Logarithms

<https://www.khanacademy.org/math/algebra2/exponential-and-logarithmic-functions/>

Factoring difference of two cubes

<https://www.khanacademy.org/math/algebra2/polynomial-functions/advanced-polynomial>

Checking factors

<https://www.khanacademy.org/math/algebra2/arithmetic-with-polynomials/polynomial-remainder>

SET

Graphs of polynomials

<https://www.khanacademy.org/math/algebra2/polynomial-functions/graphs-of-polynomials/a/>

<https://www.youtube.com/watch?v=qROAqE6J4Ec>

GO

End behavior review

https://www.varsitytutors.com/hotmath/hotmath_help/topics/end-behavior-of-a-function

Module 4

4.1

READY

Simplifying fractions

<https://www.mathsisfun.com/simplifying-fractions.html>

<https://www.youtube.com/watch?v=AtBUQH8Tkqc>

<https://www.youtube.com/watch?v=8JrORrjqLWs>

SET

Features of rational functions

<http://tutorial.math.lamar.edu/Classes/Alg/GraphRationalFcns.aspx>

GO

Solving polynomials

<http://www.purplemath.com/modules/solvpoly.htm>

4.2

READY

Using rational numbers

<https://www.mathsisfun.com/algebra/rational-numbers-operations.html>

<http://www.mathsdoctor.co.uk/revision-help/gcse/number/arithmic-with-fractions/>

https://www.youtube.com/watch?v=0s7_cyMIAtA

SET

Finding roots of rational functions

<https://www.freemathhelp.com/finding-roots.html>

Finding roots of a polynomial

<https://www.youtube.com/watch?v=2ZzuZvz33X0>

<http://www.dummies.com/education/math/pre-calculus/finding-the-roots-of-a-factored-equation/>

GO

Solving polynomial inequalities

<https://www.youtube.com/watch?v=0N1dFJI9oAI>

<http://www.mesacc.edu/~scotz47781/mat120/notes/inequalities/polynomial/>

4.3

READY

Long division with polynomials

<https://www.khanacademy.org/math/algebra2/arithmic-with-polynomials/long-division>

<http://www.purplemath.com/modules/polydiv2.htm>

<https://www.mathsisfun.com/algebra/polynomials-division-long.html>

<https://www.youtube.com/watch?v=QPoWuBRa0NA>

SET

Synthetic division with polynomials

<https://www.youtube.com/watch?v=gfo4v8vV1eo>

GO

Solving equations with radicals

<https://www.youtube.com/watch?v=mhUqR2OzAOw>

Solving equations with rationals

<https://www.khanacademy.org/math/algebra-home/alg-rational-expr-eq-func/>

<https://www.khanacademy.org/math/algebra-home/alg-rational-expr-eq-func/alg>

<http://www.montereyinstitute.org/courses/Algebra1/>

4.4

READY

Proper and Improper Rational Functions

<https://www.mathway.com/examples/Finite-Math/Functions/Determining>

<http://www.dummies.com/education/math/calculus/how-to-distinguish-proper-and-improper>

<http://math.tutorvista.com/calculus/proper-rational-function.html>

<https://www.mathsisfun.com/algebra/rational-expression.html>

SET

Features of a rational function

<http://tutorial.math.lamar.edu/Classes/Alg/GraphRationalFcns.aspx>

<https://www.youtube.com/watch?v=C0JynoAuTa4>

<http://www.purplemath.com/modules/grphtrnl.htm>

GO

Simplifying rational expressions

<https://www.khanacademy.org/math/algebra2/rational-expressions>

http://www.montereyinstitute.org/courses/Algebra1/COURSE_TEXT_RESOURCE/

4.5

READY

Writing domain and range

https://www.varsitytutors.com/hotmath/hotmath_help/topics/domain-and-range

SET

Even and Odd Functions

<http://www.purplemath.com/modules/fcnot3.htm>

<https://www.youtube.com/watch?v=DxaUcs2BigQ>

<http://www.math.brown.edu/utra/rationals.html>

<https://www.khanacademy.org/math/algebra2/rational-expressions-equations-and-functions/>

Finding asymptotes

http://www.softschools.com/math/calculus/finding_horizontal_asymptotes_of_rational_functions/

http://www.softschools.com/math/calculus/finding_vertical_asymptotes_of_rational_functions/

<http://www.coolmath.com/algebra/23-graphing-rational-functions/03-vertical-asymptotes-01>

GO

Solving rational equations

<http://www.purplemath.com/modules/solvtrnl.htm>

4.6

READY

Volume formulas

<http://www.basic-mathematics.com/volume-formulas.html>

<https://www.youtube.com/watch?v=u1nWI2b0fT4>

Surface area formulas

<http://www.math.com/tables/geometry/surfareas.htm>

<https://www.youtube.com/watch?v=3fO-UsbvD4o>

Solving right triangles

<http://www.themathpage.com/atrig/solve-right-triangles.htm>

<https://www.khanacademy.org/math/geometry/hs-geo-trig/hs-geo-solve-for-a-side/v/>

<https://www.khanacademy.org/math/geometry/hs-geo-trig/hs-geo-solve-for-a-side/a/>

SET

Features of rational functions

<http://www.purplemath.com/modules/grphtrnl.htm>

GO

Simplifying rational expressions

<https://www.khanacademy.org/math/algebra2/rational-expressions-equations-and-functions/>

<http://www.mathwarehouse.com/algebra/rational-expression/>

4.7

READY

Finding asymptotes

http://www.softschools.com/math/calculus/finding_horizontal_asymptotes_of_rational_functions/

http://www.softschools.com/math/calculus/finding_vertical_asymptotes_of_rational_functions/

<http://www.coolmath.com/algebra/23-graphing-rational-functions/03-vertical-asymptotes-01>

SET

Features of rational functions

<http://www.purplemath.com/modules/grphtrnl.htm>

GO

Determining if a rational function is even odd or neither

<https://www.youtube.com/watch?v=W9aghSQfOZI>

<http://www.purplemath.com/modules/fcnot3.htm>

Module 8

8.1

READY

Understanding standard deviation

<http://www.robertniles.com/stats/stdev.shtml>

<http://www.mathsisfun.com/data/standard-deviation.html>

Understanding Percentiles

<https://www.mathsisfun.com/data/percentiles.html>

<https://www.thoughtco.com/how-to-understand-score-percentiles-3211610>

SET

Normal distributions

<https://www.mathsisfun.com/data/standard-normal-distribution.html>

GO

Inverse functions

<http://www.coolmath.com/algebra/16-inverse-functions/05-how-to-find-the-inverse>

Inverse functions in a table

<https://www.youtube.com/watch?v=TSztRfzmk0M>

8.2

READY

Law of Large Numbers

<https://www.khanacademy.org/math/statistics-probability/random-variables-stats-library/>

<http://whatis.techtarget.com/definition/law-of-large-numbers>

SET

How to find percentiles in a normal curve

<https://www.youtube.com/watch?v=SwKhknbhWsc>

<http://www.dummies.com/education/math/statistics/how-to-find-a-percentile>

Z-score table

<http://sixsigmastudyguide.com/wp-content/uploads/2014/04/z-table.jpg>

GO

Properties of logarithms and expanding logarithms

<https://www.khanacademy.org/math/algebra2/exponential-and-logarithmic-functions/>

8.3

READY

Probability in two way tables

<https://www.khanacademy.org/math/probability/two-way-tables-categorical-data-a1/>

https://www.youtube.com/watch?v=kgs2Jzb_dwM

SET

Z-score and bell curve analysis

<https://www.youtube.com/watch?v=mai23vW8uFM>

<http://www.statisticshowto.com/probability-and-statistics/z-score/>

<https://statistics.laerd.com/statistical-guides/standard-score-2.php>

<http://sciencing.com/calculate-zscore-statistics-4555631.html>

Calculating probability from z-score

<http://www.socscistatistics.com/tests/ztest/zscorecalculator.aspx>

GO

Sketching graphs of polynomials

<https://www.youtube.com/watch?v=VSP32ns3Ez4>

8.4

READY

Making a two-way table

<https://mathbitsnotebook.com/Algebra1/StatisticsReg/ST2TwoWayTable.html>

<http://www.statisticshowto.com/two-way-table/>

SET

Calculating z-score

https://www.youtube.com/watch?v=1o-t_mVDDYQ

GO

Solving logarithmic expressions

<http://www.purplemath.com/modules/logrules.htm>

8.5

READY

Causation

<http://whatis.techtarget.com/definition/causation>

SET

Population, sample and parameter of interest explained

<https://www.cliffsnotes.com/study-guides/statistics/sampling/populations-samples-parameters>

<https://onlinecourses.science.psu.edu/statprogram/node/134>

Types of sampling

<https://people.richland.edu/james/lecture/m170/ch01-not.html>

GO

Graphing Trigonometric functions

<http://www.purplemath.com/modules/grphtrig.htm>

8.6

READY

Finding probabilities from a two-way table

https://learnzillion.com/lesson_plans/5488-calculate-conditional-probabilities

<https://www.illustrativemathematics.org/content-standards/tasks/2045>

SET

Identifying situations as surveys, observational studies, and experiments

<https://mathbitsnotebook.com/Algebra2/Statistics/STSurveys.html>

GO

Normal Curves

<https://www.mathsisfun.com/data/standard-normal-distribution.html>

8.7

READY

Probability simulator to fill out table and make histogram

<http://www.rossmanchance.com/applets/OneProp/OneProp.htm>

SET

Probability simulator to do “stick or switch” activity

http://nlvm.usu.edu/en/nav/frames_asid_117_g_3_t_2.html?from=category_g_3_t_2.html

GO

Tree and Venn Diagrams

<http://www.intuitor.com/student/VennDiagVsTrees.php>

Probability notation

http://www.rapidtables.com/math/symbols/Statistical_Symbols.htm