

# MATH III Subject Videos

Unit	Subject Area
<b>Functions</b>	DOMAIN AND RANGE <a href="http://patrickjmt.com/finding-domain-and-range-of-a-function-using-a-graph/">http://patrickjmt.com/finding-domain-and-range-of-a-function-using-a-graph/</a> TRANSFORMATIONS <a href="http://patrickjmt.com/graphing-using-graph-transformations-example-1/">http://patrickjmt.com/graphing-using-graph-transformations-example-1/</a> <a href="http://patrickjmt.com/graphing-using-graph-transformations-example-2/">http://patrickjmt.com/graphing-using-graph-transformations-example-2/</a> MODELING <a href="http://www.youtube.com/watch?v=nw6GOUtC2jY">http://www.youtube.com/watch?v=nw6GOUtC2jY</a>
<b>Geometry</b>	TRIANGLE, CONGRUENCY AND SIMILARITY <a href="http://www.regentsprep.org/Regents/math/geometry/GP4/Ltriangles.htm">http://www.regentsprep.org/Regents/math/geometry/GP4/Ltriangles.htm</a> <a href="http://www.regentsprep.org/Regents/math/geometry/GP11/Lsimilar.htm">http://www.regentsprep.org/Regents/math/geometry/GP11/Lsimilar.htm</a> <a href="http://www.youtube.com/watch?v=DZKUXTTYjM8">http://www.youtube.com/watch?v=DZKUXTTYjM8</a> CIRCLES, ANGLE AND SEGMENT THEOREMS Cords Secants and Tangents <a href="http://www.regentsprep.org/Regents/math/geometry/GP14/CircleSegments.htm">http://www.regentsprep.org/Regents/math/geometry/GP14/CircleSegments.htm</a> Angles <a href="http://www.regentsprep.org/Regents/math/geometry/GP15/CircleAngles.htm">http://www.regentsprep.org/Regents/math/geometry/GP15/CircleAngles.htm</a> TWO COLUMN PROOFS <a href="http://www.regentsprep.org/Regents/math/geometry/GP4/PracCongTri.htm">http://www.regentsprep.org/Regents/math/geometry/GP4/PracCongTri.htm</a>
<b>Logarithms and Exponential Functions</b>	CONVERTING BETWEEN LOGARITHMIC AND EXPONENTIAL FORM. <a href="http://patrickjmt.com/properties-of-logarithms-part-1/">http://patrickjmt.com/properties-of-logarithms-part-1/</a> <a href="http://patrickjmt.com/change-of-base-formula-for-logarithms/">http://patrickjmt.com/change-of-base-formula-for-logarithms/</a> EXPANDING AND CONTRACTING LOGARITHMIC EXPRESSIONS <a href="http://patrickjmt.com/properties-of-logarithms/">http://patrickjmt.com/properties-of-logarithms/</a> <a href="http://patrickjmt.com/properties-of-logarithms-part-2/">http://patrickjmt.com/properties-of-logarithms-part-2/</a> EXPONENTIAL GROWTH AND DECAY MODELS <a href="http://patrickjmt.com/exponential-decay-finding-half-life/">http://patrickjmt.com/exponential-decay-finding-half-life/</a> COMPOUNDING INTEREST (PERIODIC AND CONTINUOUS) <a href="http://patrickjmt.com/understanding-simple-interest-and-compound-interest/">http://patrickjmt.com/understanding-simple-interest-and-compound-interest/</a>
<b>Other</b>	<a href="http://patrickjmt.com/the-distance-formula/">http://patrickjmt.com/the-distance-formula/</a> <a href="http://patrickjmt.com/the-midpoint-formula/">http://patrickjmt.com/the-midpoint-formula/</a>
<b>Polynomial Functions</b>	LONG DIVISION <a href="http://patrickjmt.com/long-division-of-polynomials/">http://patrickjmt.com/long-division-of-polynomials/</a> <a href="http://patrickjmt.com/long-division-of-polynomials-a-slightly-harder-example/">http://patrickjmt.com/long-division-of-polynomials-a-slightly-harder-example/</a> SYNTHETIC DIVISION <a href="http://patrickjmt.com/synthetic-division/">http://patrickjmt.com/synthetic-division/</a> <a href="http://patrickjmt.com/synthetic-division-example-2/">http://patrickjmt.com/synthetic-division-example-2/</a>

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	<p>REMAINDER THEOREM  <a href="http://patrickjmt.com/the-remainder-theorem-example-1/">http://patrickjmt.com/the-remainder-theorem-example-1/</a>  <a href="http://patrickjmt.com/the-remainder-theorem-example-2/">http://patrickjmt.com/the-remainder-theorem-example-2/</a></p> <p>FINDING ALL ROOTS  <a href="http://patrickjmt.com/finding-all-the-zeros-of-a-polynomial-example-1/">http://patrickjmt.com/finding-all-the-zeros-of-a-polynomial-example-1/</a>  <a href="http://patrickjmt.com/finding-the-formula-for-a-polynomial-given-zerosroots-degree-and-one-point-example-1/">http://patrickjmt.com/finding-the-formula-for-a-polynomial-given-zerosroots-degree-and-one-point-example-1/</a></p> <p>BINOMIAL EXPANSION and PASCAL'S TRIANGLE  <a href="http://patrickjmt.com/the-binomial-theorem-ex-1/">http://patrickjmt.com/the-binomial-theorem-ex-1/</a>  <a href="http://patrickjmt.com/the-binomial-theorem-ex-2/">http://patrickjmt.com/the-binomial-theorem-ex-2/</a></p>
<p><b>Quadratic Functions</b></p>	<p>FACTORING  <a href="http://patrickjmt.com/solving-quadratic-equations-by-factoring-basic-examples/">http://patrickjmt.com/solving-quadratic-equations-by-factoring-basic-examples/</a></p> <p>AC METHOD  <a href="http://www.youtube.com/watch?v=AYkaCZUT4O4">http://www.youtube.com/watch?v=AYkaCZUT4O4</a></p> <p>SOLVE BY GRAPHING  <a href="http://www.youtube.com/watch?v=_0MdpR0e0Ds">http://www.youtube.com/watch?v=_0MdpR0e0Ds</a></p> <p>SPECIAL CASES  <a href="http://patrickjmt.com/factoring-the-difference-of-two-squares-ex-1/">http://patrickjmt.com/factoring-the-difference-of-two-squares-ex-1/</a>  <a href="http://patrickjmt.com/factoring-the-difference-of-two-squares-ex-2-2/">http://patrickjmt.com/factoring-the-difference-of-two-squares-ex-2-2/</a>  <a href="http://patrickjmt.com/factoring-sums-and-differences-of-cubes/">http://patrickjmt.com/factoring-sums-and-differences-of-cubes/</a>  <a href="http://patrickjmt.com/factoring-perfect-square-trinomials-ex3/">http://patrickjmt.com/factoring-perfect-square-trinomials-ex3/</a></p> <p>QUADRATIC FORMULA  <a href="http://patrickjmt.com/using-the-quadratic-formula/">http://patrickjmt.com/using-the-quadratic-formula/</a>  <a href="http://patrickjmt.com/quadratic-equations-factoring-and-quadratic-formula/">http://patrickjmt.com/quadratic-equations-factoring-and-quadratic-formula/</a></p> <p>EXTRANEIOUS SOLUTIONS  <a href="http://www.khanacademy.org/math/algebra/exponent-equations/radical_equations/v/extraneous-solutions-to-radical-equations">http://www.khanacademy.org/math/algebra/exponent-equations/radical_equations/v/extraneous-solutions-to-radical-equations</a></p> <p>COMPLETING THE SQUARE  <a href="http://patrickjmt.com/quadratic-equations-completing-the-square/">http://patrickjmt.com/quadratic-equations-completing-the-square/</a>  <a href="http://patrickjmt.com/completing-the-square-to-solve-quadratic-equations-more-ex-1/">http://patrickjmt.com/completing-the-square-to-solve-quadratic-equations-more-ex-1/</a>  <a href="http://patrickjmt.com/finding-the-center-radius-form-of-a-circle-by-completing-the-square-example-1/">http://patrickjmt.com/finding-the-center-radius-form-of-a-circle-by-completing-the-square-example-1/</a></p> <p>VERTEX FORM            Short Cut and Completing the Square  <a href="https://www.khanacademy.org/math/algebra/quadratics/solving_graphing_quadratics/v/finding-the-vertex-of-a-parabola-example">https://www.khanacademy.org/math/algebra/quadratics/solving_graphing_quadratics/v/finding-the-vertex-of-a-parabola-example</a>            More Examples  <a href="http://www.youtube.com/watch?v=Nt0Yk-0aFWQ">http://www.youtube.com/watch?v=Nt0Yk-0aFWQ</a></p>

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	FOCUS AND DIRECTRIX <a href="http://patrickjmt.com/conic-sections-parabolas-part-2-directrix-and-focus/">http://patrickjmt.com/conic-sections-parabolas-part-2-directrix-and-focus/</a> <a href="http://patrickjmt.com/conic-sections-parabolas-part-3-focus-and-directrix/">http://patrickjmt.com/conic-sections-parabolas-part-3-focus-and-directrix/</a> <a href="http://patrickjmt.com/conic-sections-parabolas-part-4-focus-and-directrix/">http://patrickjmt.com/conic-sections-parabolas-part-4-focus-and-directrix/</a> <a href="http://patrickjmt.com/conic-sections-parabolas-part-5-focus-and-directrix/">http://patrickjmt.com/conic-sections-parabolas-part-5-focus-and-directrix/</a>
<b>Radicals and Complex Numbers</b>	SIMPLIFYING RADICAL EXPRESSIONS <a href="http://patrickjmt.com/simplifying-numbers-under-square-roots/">http://patrickjmt.com/simplifying-numbers-under-square-roots/</a> SOLVING RADICAL EQUATIONS <a href="http://patrickjmt.com/solving-an-equation-involving-a-single-radical-square-root-ex-1/">http://patrickjmt.com/solving-an-equation-involving-a-single-radical-square-root-ex-1/</a> <a href="http://patrickjmt.com/solving-an-equation-containing-two-radicals-ex-1/">http://patrickjmt.com/solving-an-equation-containing-two-radicals-ex-1/</a> COMPLEX NUMBERS <a href="http://patrickjmt.com/rewriting-radicals-using-complex-numbers/">http://patrickjmt.com/rewriting-radicals-using-complex-numbers/</a> <a href="http://patrickjmt.com/complex-numbers-multiplying-and-dividing/">http://patrickjmt.com/complex-numbers-multiplying-and-dividing/</a> <a href="http://patrickjmt.com/adding-and-subtracting-complex-imaginary-numbers/">http://patrickjmt.com/adding-and-subtracting-complex-imaginary-numbers/</a> <a href="http://patrickjmt.com/complex-numbers-multiplying-ex-1/">http://patrickjmt.com/complex-numbers-multiplying-ex-1/</a> <a href="http://patrickjmt.com/complex-numbers-dividing-ex-1/">http://patrickjmt.com/complex-numbers-dividing-ex-1/</a>
<b>Rational Functions</b>	SIMPLIFYING <a href="http://patrickjmt.com/rational-expressions-writing-in-lowest-terms-ex-1/">http://patrickjmt.com/rational-expressions-writing-in-lowest-terms-ex-1/</a> ADDING/SUBTRACTING <a href="http://patrickjmt.com/rational-expressions-adding-and-subtracting/">http://patrickjmt.com/rational-expressions-adding-and-subtracting/</a> MULTIPLYING/DIVIDING <a href="http://patrickjmt.com/rational-expressions-multiplying-and-dividing-ex-1/">http://patrickjmt.com/rational-expressions-multiplying-and-dividing-ex-1/</a> GRAPHING <a href="http://patrickjmt.com/graphing-some-basic-rational-functions-example-1/">http://patrickjmt.com/graphing-some-basic-rational-functions-example-1/</a> <a href="http://patrickjmt.com/graphing-a-rational-function-example-1/">http://patrickjmt.com/graphing-a-rational-function-example-1/</a> SOLVING <a href="http://patrickjmt.com/rational-equations-solving/">http://patrickjmt.com/rational-equations-solving/</a> WORD PROBLEMS <a href="http://www.youtube.com/watch?v=puHW7GsmTuc">http://www.youtube.com/watch?v=puHW7GsmTuc</a>
<b>Series</b>	ARITHMETIC SERIES <a href="http://www.youtube.com/watch?v=oJAgK39no4A">http://www.youtube.com/watch?v=oJAgK39no4A</a> <a href="http://patrickjmt.com/quick-intro-to-arithmetic-sequences/">http://patrickjmt.com/quick-intro-to-arithmetic-sequences/</a> <a href="http://patrickjmt.com/arithmetic-sequences-finding-a-general-formula-given-two-terms/">http://patrickjmt.com/arithmetic-sequences-finding-a-general-formula-given-two-terms/</a> <a href="http://patrickjmt.com/finding-the-sum-of-a-finite-arithmetic-series/">http://patrickjmt.com/finding-the-sum-of-a-finite-arithmetic-series/</a> GEOMETRIC SERIES <a href="http://www.youtube.com/watch?v=mYg5gKlJjHc">http://www.youtube.com/watch?v=mYg5gKlJjHc</a>

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	<a href="http://www.khanacademy.org/math/prec calculus/seq_induction/prec calc-geometric-sequences/v/geometric-sequences">http://www.khanacademy.org/math/prec calculus/seq_induction/prec calc-geometric-sequences/v/geometric-sequences</a> <a href="http://www.regentsprep.org/Regents/math/algtrig/ATP2/GeoSeq.htm">http://www.regentsprep.org/Regents/math/algtrig/ATP2/GeoSeq.htm</a>
<b>Statistics</b>	MEAN/MEDIAN/MODE <a href="http://www.khanacademy.org/math/cc-seventh-grade-math/cc-7th-probability-statistics/cc-7th-central-tendency/v/statistics-intro--mean--median-and-mode">http://www.khanacademy.org/math/cc-seventh-grade-math/cc-7th-probability-statistics/cc-7th-central-tendency/v/statistics-intro--mean--median-and-mode</a> INTERPRETING A NORMAL CURVE <a href="http://www.youtube.com/watch?v=JEQ-8J7tHiA">http://www.youtube.com/watch?v=JEQ-8J7tHiA</a> <a href="http://www.youtube.com/watch?v=QWIHOMN8VO8">http://www.youtube.com/watch?v=QWIHOMN8VO8</a> SAMPLES AND SURVEYS <a href="http://www.khanacademy.org/math/cc-seventh-grade-math/cc-7th-probability-statistics/cc-7th-population-sampling/v/reasonable-samples">http://www.khanacademy.org/math/cc-seventh-grade-math/cc-7th-probability-statistics/cc-7th-population-sampling/v/reasonable-samples</a>
<b>Trigonometry</b>	UNIT CIRCLE PROPERTIES <a href="http://patrickjmt.com/a-trick-to-remember-values-on-the-unit-circle/">http://patrickjmt.com/a-trick-to-remember-values-on-the-unit-circle/</a> <a href="http://patrickjmt.com/a-way-to-remember-the-entire-unit-circle-for-trigonometry/">http://patrickjmt.com/a-way-to-remember-the-entire-unit-circle-for-trigonometry/</a> CONVERTING BETWEEN DEGREES AND RADIANS <a href="http://patrickjmt.com/degrees-and-radians-and-converting-between-them-example-1/">http://patrickjmt.com/degrees-and-radians-and-converting-between-them-example-1/</a> TRIG IDENTITIES <a href="http://patrickjmt.com/proving-an-identity-example-1/">http://patrickjmt.com/proving-an-identity-example-1/</a> <a href="http://patrickjmt.com/proving-an-identity-example-2/">http://patrickjmt.com/proving-an-identity-example-2/</a> <a href="http://patrickjmt.com/proving-an-identity-other-examples-example-1/">http://patrickjmt.com/proving-an-identity-other-examples-example-1/</a> <a href="http://patrickjmt.com/proving-an-identity-other-examples-example-2/">http://patrickjmt.com/proving-an-identity-other-examples-example-2/</a> TRIG EQUATIONS AND THEIR GRAPHS <a href="http://patrickjmt.com/graphing-trigonometric-functions-graph-transformations-part-1/">http://patrickjmt.com/graphing-trigonometric-functions-graph-transformations-part-1/</a>