

Math 103 Test 4 Khan Academy Videos

Quadratics and Their Graphs

1. Vertex and Vertex Form: <https://www.khanacademy.org/math/algebra/quadratics/quad-standard-form-alg1/v/ex3-completing-the-square>
2. Finding x-intercepts and Graphing: <https://www.khanacademy.org/math/algebra/quadratics/quad-standard-form-alg1/v/graphing-a-parabola-using-roots-and-vertex>
3. Shifting Parabolas: <https://www.khanacademy.org/math/algebra/quadratics/transforming-quadratic-functions/v/shifting-and-scaling-parabolas>
4. Shifting Parabolas: <https://www.khanacademy.org/math/algebra/quadratics/transforming-quadratic-functions/v/example-translating-parabola>
5. Reflecting and Scaling Parabolas: <https://www.khanacademy.org/math/algebra/quadratics/transforming-quadratic-functions/v/scaling-and-reflecting-parabolas>

Quadratic Applications

6. Projectile Problem: <https://www.khanacademy.org/math/algebra/quadratics/quad-standard-form-alg1/v/application-problem-with-quadratic-formula>
7. Area Problem: <https://www.khanacademy.org/math/algebra/quadratics/solving-quadratic-equations-by-factoring/v/example-4-solving-a-quadratic-equation-by-factoring>

Quadratic and Rational Inequalities

8. Quadratic Inequality: <https://www.khanacademy.org/math/algebra-home/alg-quadratics/alg-quadratic-inequalities/v/quadratic-inequality-example-2>
9. Rational Inequality: <https://www.khanacademy.org/math/algebra-home/alg-rational-expr-eq-func/alg-rational-inequalities/v/rational-inequalities>
10. More Complex rational Inequality: <https://www.khanacademy.org/math/algebra-home/alg-rational-expr-eq-func/alg-rational-inequalities/v/rational-inequalities-2>

Exponential Functions and Their Graphs

11. Exponential Growth: <https://www.khanacademy.org/math/algebra/introduction-to-exponential-functions/exponential-vs-linear-growth/v/exponential-growth-functions>
12. Exponential Decay: <https://www.khanacademy.org/math/algebra/introduction-to-exponential-functions/exponential-decay-alg1/v/exponential-decay-intro>
13. Transforming Exponential Graphs: <https://www.khanacademy.org/math/algebra2/exponential-and-logarithmic-functions/graphs-of-exponential-functions/v/transforming-exponential-graphs>
14. Transforming Exponential Graphs: <https://www.khanacademy.org/math/algebra2/exponential-and-logarithmic-functions/graphs-of-exponential-functions/v/transforming-exponential-graphs-2>
15. Definition of e: <https://www.khanacademy.org/economics-finance-domain/core-finance/interest-tutorial/cont-comp-int-and-e/v/e-as-limit>

Exponential Applications

16. Compound Interest: <https://www.khanacademy.org/math/algebra/introduction-to-exponential-functions/exponential-expressions-alg1/v/exponential-expressions-word-problems-numerical>
17. Radioactive Decay: <https://www.khanacademy.org/math/algebra/introduction-to-exponential-functions/exponential-decay-alg1/v/word-problem-solving-exponential-growth-and-decay>
18. Exponential Growth: <https://www.khanacademy.org/math/algebra/introduction-to-exponential-functions/exponential-expressions-alg1/v/exponential-expressions-word-problems-algebraic>
19. Compound interest: <https://www.khanacademy.org/economics-finance-domain/core-finance/interest-tutorial/compound-interest-tutorial/v/introduction-to-compound-interest>
20. Annual Percentage Rate: <https://www.khanacademy.org/economics-finance-domain/core-finance/interest-tutorial/credit-card-interest/v/annual-percentage-rate-apr-and-effective-apr>
21. Continuous Interest: <https://www.khanacademy.org/economics-finance-domain/core-finance/interest-tutorial/cont-comp-int-and-e/v/continuously-compounding-interest-formula-e>

Composites

22. Concept of Composite: <https://www.khanacademy.org/math/algebra2/manipulating-functions/function-composition/v/function-composition>
23. Evaluating Numerically: <https://www.khanacademy.org/math/algebra2/manipulating-functions/function-composition/v/evaluating-composite-functions>
24. Evaluating Graphically: <https://www.khanacademy.org/math/algebra2/manipulating-functions/function-composition/v/evaluating-composite-functions-using-graphs>
25. Finding Algebraically: <https://www.khanacademy.org/math/algebra2/manipulating-functions/function-composition/v/new-function-from-composition>

Inverses

26. Concept of Inverse: <https://www.khanacademy.org/math/algebra2/manipulating-functions/introduction-to-inverses-of-functions/v/introduction-to-function-inverses>
27. Concept of an Inverse: <https://www.khanacademy.org/math/algebra2/manipulating-functions/introduction-to-inverses-of-functions/v/understanding-inverse-functions>
28. Graph of a Function and Its Inverse:
<https://www.khanacademy.org/math/algebra2/manipulating-functions/introduction-to-inverses-of-functions/v/understanding-function-inverses-example>
29. Does a Function have an Inverse:
<https://www.khanacademy.org/math/algebra2/manipulating-functions/invertible-functions/v/determining-if-a-function-is-invertible>
30. Inverse of a Linear Function: <https://www.khanacademy.org/math/algebra2/manipulating-functions/finding-inverse-functions/v/function-inverse-example-1>
31. Finding Inverse of a Quadratic: <https://www.khanacademy.org/math/algebra2/manipulating-functions/finding-inverse-functions/v/function-inverses-example-2>
32. Verifying Functions are Inverses:
<https://www.khanacademy.org/math/algebra2/manipulating-functions/verifying-that-functions-are-inverses/v/verifying-function-inverses-by-composition>

Logarithms

33. Meaning of Logarithms: <https://www.khanacademy.org/math/algebra2/exponential-and-logarithmic-functions/introduction-to-logarithms/v/logarithms>
34. Evaluating logs without a Calculator <https://www.khanacademy.org/math/algebra2/exponential-and-logarithmic-functions/introduction-to-logarithms/v/fancier-logarithm-expressions>
35. Graphical Relationship Between Exponentials and logarithms: <https://www.khanacademy.org/math/algebra2/exponential-and-logarithmic-functions/introduction-to-logarithms/v/plotting-exponential-logarithm>
36. Sum and Difference Properties: <https://www.khanacademy.org/math/algebra2/exponential-and-logarithmic-functions/properties-of-logarithms/v/introduction-to-logarithm-properties>
37. Power and Change of Base Properties: <https://www.khanacademy.org/math/algebra2/exponential-and-logarithmic-functions/properties-of-logarithms/v/introduction-to-logarithm-properties-part-2>
38. Graph of Simple Logarithm: <https://www.khanacademy.org/math/algebra2/exponential-and-logarithmic-functions/graphs-of-logarithmic-functions/v/graphing-logarithmic-functions>
39. Transforming Graphs of Logarithm Functions: <https://www.khanacademy.org/math/algebra2/exponential-and-logarithmic-functions/graphs-of-logarithmic-functions/v/logarithmic-function-graphs>
40. Expand and condense log expressions: <https://www.youtube.com/watch?v=yyZSLsSjoQw>

Solving Exponential and Logarithm Equations

41. Exponential Equations: <https://www.khanacademy.org/math/algebra2/exponential-and-logarithmic-functions/solving-exponential-equations-with-logarithms/v/exponential-equation>
42. Exponential Equations: <https://www.khanacademy.org/math/algebra2/exponential-and-logarithmic-functions/solving-exponential-equations-with-logarithms/v/solve-exponentials>
43. Logarithmic Equations: <https://www.khanacademy.org/math/algebra-home/alg-exp-and-log/alg-logarithmic-equations/v/solving-logarithmic-equations>
44. Exponential Equations: <https://www.youtube.com/watch?v=gqf6DxyYcDE>
45. Logarithmic Equations: <https://www.youtube.com/watch?v=BxD6ZFbu01c>
46. Logarithmic Equations: <https://www.youtube.com/watch?v=d2yPOrOwVH4>