Pre-Calculus by Design Table of Contents

Note: The letters and numbers in parentheses following the activity name reference specific Common Core State Standards for Mathematics addressed by the activity

- 1. Solving Inequalities
- 2. Graphing Linear Functions (F-IF 7a)
- 3. Determining Whether a Function is Even, Odd, or Neither, and Whether it is 1-1, Onto, Both, or Neither (F-BF 3)
- 4. Dividing a Polynomial by another Polynomial
- 5. Finding Terms of Polynomials Using the Binomial Theorem and Pascal's Triangle (A-APR 5)
- 6. Finding the Zeros of Polynomials (A-APR 3)
- 7. Graphing Polynomials (F-IF 7C, A-CED 2)
- 8. Graphing Piecewise-Defined Functions (A-CED 2)
- 9. Finding the Vertical Asymptotes of Functions (F-IF 7d)
- 10. Finding the Horizontal Asymptotes of Functions (F-IF 7d)
- 11. Graphing Rational Functions (F-IF 7d)
- 12. Solving Exponential Equations
- 13. Converting Between Exponential and Logarithmic Equations (F-BF 5)
- 14. Solving Logarithmic Equations
- 15. Solving Logarithmic Equations Using Properties of Logarithms
- 16. Graphing Exponential and Logarithmic Functions (F-IF 7e)
- 17. Identifying Conic Sections from their Equations (G-GPE 1-3)
- 18. Graphing Parabolas (A-CED 2, F-IF 7a)
- 19. Graphing Ellipses (A-CED 2, F-IF 7a)
- 20. Graphing Hyperbolas (A-CED 2, F-IF 7)
- 21. Converting Angles Between Radians and Degrees
- 22. Finding the Values of Trigonometric Functions at Given Angles (FTF 3)
- 23. Determining Angles and Side Lengths of Right Triangles Using Trigonometric Functions
- 24. Finding the Endpoint of a Vector Starting at the Origin Given its Length and Angle with the Positive X-Axis (N-VM 1)
- 25. Finding the Values of Trigonometric Functions at Points on Lines through the Origin within Given Quadrants
- 26. Finding Angles and Side Lengths of General Triangles Using the Law of Sines (G-SRT 11)
- 27. Finding Angles and Side Lengths of General Triangles Using the Law of Cosines (G-SRT 11)
- 28. Solving Trigonometric Equations
- 29. Using Trigonometric Addition and Subtraction Formulas
- 30. Using Trigonometric Multiple Angle Formulas
- 31. Graphing Trigonometric Functions (F-IF 7e)
- 32. Graphing Trigonometric Functions II (F-IF 7e)
- 33. Writing Complex Numbers in Trigonometric Form
- 34. Using Summation Notation
- 35. Finding Sums of Arithmetic and Geometric Series
- 36. Finding Specific Terms in Arithmetic and Geometric Series
- 37. Finding the Limits of Sequences
- 38. Finding the Limits of Functions
- 39. Finding the Equation of the Tangent Line to a Curve at a Point
- 40. Calculating the Instantaneous Rate of Change of a Function at a Point
- 41. Using Rectangles to Estimate the Area under a Curve
- 42. Finding Definite Integrals of Functions

Answer Key