

ACT Advanced Math Concepts



Most of these are not very complicated, and you don't need deep knowledge, just basic operations. Google the concepts for explanations and practice problems. Or you can ask a teacher or tutor.

The more math concepts you know, the higher your ACT math score will be. However, few students need all the concepts. Here is a general guideline:

Target Math Score	Advanced Math Concepts You Need to Know
25 or less	None
26-29	More Common Concepts Only
30 or higher	All Advanced Concepts

More Common Concepts - (The first two are on almost every test.)

***Matrices** - *know how to perform addition, multiplication, undefined product, and do word problems*

***Trigonometry Word Problems** - *label which side is opposite, adjacent, and hypotenuse using the angle given, draw a picture if there isn't one*

Law of Sines - *memorize this since the given description of the formula is often confusing*

Coterminal Angles - *know how to calculate in degrees and radians*

Converting from Radians to Degrees - *use the standard formulas, often occurs in questions about coterminal angles*

Inverse or Arc Sine, Cosine, Tangent - *I do not recommend learning this concept for the test, just cross out "Arc" or the exponent and solve as for a regular trigonometry problem*

Period and Amplitude Trigonometric Functions - *know how to find these from a graph and from an equation*

Sine, Cosine, and Tangent for Angles Larger than 90 Degrees - *draw an XY plane, draw the triangle in the correct quadrant, label which side of the triangle is positive and which is negative*

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Less Common Concepts

Law of Cosines - *no need to memorize this, just know how to plug the numbers into the formula*

Polar Coordinates - *know how to graph these and translate into angles measured in degrees*

Simplifying Trigonometric Identities - *including arcsin arccos, arctan*

Absolute Value Trigonometry Functions - *choose an answer with all the points above the x-axis, pick coordinates from a point on the graph and plug them into the equations in the answers*

Expanding and Condensing Logarithms - *know how to work with addition, subtraction, multiplication, division, exponents*

Graphing Exponential Trigonometric Functions - *if the question asks you to identify which equation goes with a graph, pick coordinates from a point on the graph and plug them into the answers*

Radian Equivalents for 30, 60, 90, and 45 Degree Angles - *Google these and memorize them*