ACT Math Topic Breakdown

**14 Pre-Algebra questions** (7th or 8th grade level): 23% of test

Concepts:

1. Operations using whole numbers, fractions and decimals
2. Square roots
3. Exponents
4. Scientific Notation
5. Rations, proportions and percent
6. Linear equations with 1 variable
7. Absolute Value
8. Simple Probability

**Elementary Algebra** 10 questions (8th and 9th grade) 17% of test

Concepts

1. Functions
2. Polynomial Operations and factoring simple quadratics
3. Linear inequalities in one variable
4. Properties of integer exponents and square roots

**Intermediate Algebra** 9 questions (9th to 10th grade) 15% of test

Concepts

1. Quadratic Formula
2. Radical and rational expressions
3. Inequalities and absolute value equations
4. Sequences
5. Systems of linear equations
6. Logarithms
7. Roots of Polynomials

**Coordinate Geometry:**  9 questions; 15% of test

1. Number line graphs
2. Equation of line
3. Slope
4. Parallel and Perpendicular lines
5. Distance and Midpoint Formulas

**Plane Geometry** 14 questions; 23% of test

Concepts

1. Properties and Relations of Plane Figures
2. Triangles
3. Circles
4. Rectangles
5. Parallelograms
6. Trapezoids
7. Angles, Parallel lines, and Perpendicular lines
8. Perimeter, Area, and Volume

**Trigonometry** 4 questions; 7% of test

Basic Trig: SOHCAHTOA

Sin Ɵ =

Ɵ

hypotenuse

opposite

adjacent

**Advance Trig** : secant=sec cosecant = csc cotangent = cot

Pythagorean Identities:

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1 +

Trig Identities:

The truth is that the ACT would probably include a note that would contain these advanced formulas!

Radians:

Degrees to radians: #degrees \* example:

Radians to degrees: #radians \* example:

\*\*\*\*\*\*\*NEW FORMULA \*\*\*\*\*\*\*\*

**Expected value: E(x) =**

This means to add up the products of each outcome and its probability. This is also the way we find the mean of a distribution for a discrete random variable.