

# ACT Mathematics Test

## *60 questions, 60 minutes*

CONTENT/SKILLS	PERCENT OF TEST
<b>Preparing for Higher Math</b>	<b>57-60%</b>
Number & Quantity <ul style="list-style-type: none"> <li>• Demonstrate knowledge of real and complex number systems</li> <li>• Understand and reason with numerical quantities in many forms, including integer and rational exponents, vectors, and matrices</li> </ul>	7-10%
Algebra <ul style="list-style-type: none"> <li>• Solve, graph, and model multiple types of expressions</li> <li>• Employ different kinds of equations, for example, linear, polynomial, radical, and exponential</li> <li>• Find solutions to systems of equations, even when represented by simple matrices, and apply their knowledge to applications</li> </ul>	12-15%
Functions <ul style="list-style-type: none"> <li>• Understand function definition, notation, representation, and application for linear, radical, piecewise, polynomial, logarithmic, and other functions</li> <li>• Manipulate and translate functions</li> <li>• Apply important features of graphs</li> </ul>	12-15%
Geometry <ul style="list-style-type: none"> <li>• Define and apply knowledge of shapes and solids, such as congruence and similarity relationships or surface area and volume measurement</li> <li>• Understand composition of objects</li> <li>• Solve for missing values in triangles, circles, and other figures, including using trigonometric ratios and equations of conic sections</li> </ul>	12-15%
Statistics & Probability <ul style="list-style-type: none"> <li>• Describe center and spread of distributions</li> <li>• Apply and analyze data collection methods</li> <li>• Understand and model relationships in bivariate data</li> <li>• Calculate probabilities including the related sample spaces</li> </ul>	8-12%
<b>Integrating Essential Skills</b> <ul style="list-style-type: none"> <li>• Use essential skills (i.e., concepts typically learned before 8<sup>th</sup> grade, for example, rates, percentages, proportional relationships, area, surface area, volume, average, median, etc.) to:               <ul style="list-style-type: none"> <li>○ Solve problems of increasing complexity</li> <li>○ Combine skills in a longer chain of steps</li> <li>○ Apply skills in more varied contexts</li> <li>○ Understand more connections</li> <li>○ Become more fluent</li> </ul> </li> </ul>	<b>40-43%</b>
<b>Modeling</b> – these are embedded in other areas	<b>(≥27%)</b>
<b>TOTAL</b>	<b>100%</b>

- With an average of 1 minute per question, you should be able to finish the Mathematics test in the allowed time. Most of the problems can be solved without doing the “work”. Answers are in a logical order. Read each question carefully to make sure you understand the type of answer required.