

## Appalachian Bible College MA 106 Proficiency Exam

The **MA 106 Proficiency Exam** is offered prior to the beginning of the spring semester for any first-time student enrolled in MA 106. Students are allowed one attempt to complete the exam, and those scoring 80% or above will receive a waiver for the course through verified competency.

It is a 2-hour timed test with approximately 100 multiple-choice questions. Although calculators are not provided, students may use their own **basic 4-function calculator**, which may be purchased at any local dollar store, if they bring it with them to the testing location—**no sharing**. Some examples of calculators that are not permitted would be scientific/graphing calculators, calculators on phones, watches, or any other electronic device, models that make noise or require electricity, etc. Questions concerning calculator usage should be discussed with the instructor prior to reporting to the test location.

Exam topics include:

- Problem-solving Skills: word problems using inductive & deductive reasoning, patterns & logic
- Rational numbers: addition, subtraction, multiplication & division of integers, fractions, decimals, etc.; ratios & proportions; percentages
- Algebra: translate & solve single variable equations; order of operations
- Probability: determining outcomes, sample space & probability of event(s); mutually exclusive vs non-mutually exclusive events; complementary events; multi-stage experiments w/ tree diagrams; geometric probabilities; odds & expected value; combinations & permutations
- Data Analysis/Statistics: tables & graphs—pictographs, line graphs, bar graphs, circle graphs, histograms, stem & leaf plots, box plots; mean, median & mode
- Geometry: perimeter, area & volume of figures; angles & triangles; square roots; Pythagorean Theorem