

American University Mathematics Placement Exam

During the summer, you will be given a test which helps place you in the appropriate mathematics or statistics course given your background. The questions on the test will be multiple choice and you will be given 45 minutes to answer 32 questions. The topics on the test are from high school mathematics, covering:

- order of operation
- interpretation of graphs
- integer arithmetic
- functional notation
- composition of functions
- rules of exponents and logarithms
- solving linear, quadratic, and exponential equations
- solving linear inequalities
- graphing linear, quadratic, exponential, and trigonometric functions
- factoring polynomials
- solving and simplifying rational equations
- trigonometry

Please refer to the University Mathematics Requirement section in Academic Regulations chapter of the University Catalog for more information. The exam does not waive you from completing the University Mathematics Requirement. It simply provides a benchmark for the department to place you into an appropriate course.

Sample Mathematics Placement Exam

Here are some examples of the types of questions that you can be asked on the Mathematics Placement Exam. The types of questions and topics are not limited to the questions given below. We have intentionally not provided multiple choice answers or solutions for these questions; determining the answers yourself is a good opportunity to study. We will not provide answers.

1. Evaluate $-7 + [2(-3+8) - 2]$.
2. If $f(x) = \frac{1+x}{1-x}$, evaluate $f(3)$.
3. Find an equation for the line passing through $(1, 4)$ and $(-3, 2)$.
4. If $\frac{(2x-5)(x+3)}{x-2} = 0$, solve for x .
5. Simplify $\frac{x-4}{x^2-9} \cdot \frac{2x+6}{3x-12}$.
6. If $f(x) = 2 - x^2$ and $g(x) = 2x - 1$, find an expression for $g(f(x))$.
7. Supply a graph for the function $y = -2x^2 - 2x + 12$.
8. If $\log x = 6$ and $\log y = 4$, evaluate $\log\left(\frac{x^2}{y}\right)$.
9. Evaluate $(81)^{1/4}(25)^{-1/2}$.
10. Supply a graph for $y = 3 - 3^{-x}$.