

American University Math Placement Test

If you are taking the Math Placement Test, please review the list of potential topics below and some sample test questions on the next page. The questions on the actual test will be multiple choice and you will be given 45 minutes to answer 32 questions. Your score on the test will help your advisor determine if you are ready for MATH 221 (Calculus I) or if you first need to take MATH 170 (Precalculus). The topics on the test are from high school mathematics, covering:

- Order of operations
- Interpretations 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

Sample Mathematics Placement Test Questions

Here are some examples of the types of questions that you can be asked on the Mathematics Placement Test. 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 $y = 3 - 3^{-x}$.