Scores on the Calculus Readiness Test may qualify students for Math 43, or Calculus Math 1A. This test is a 30 problem 1 hour multiple choice test. Use of calculator is not permitted.

The following is a list of skills covered in the test. This list is intended as a guideline only.

* Trigonometric functions
     identities
     conditional statements
     inverse
     graphs
     practical applications
* Vectors in two-dimensional space
* Functions – numerical, graphical and symbolic representation
* Finding roots of functions symbolically and numerically
* Domain and range of functions
* Exponential/logarithmic functions – growth/decay applied
* Operations with functions to include composition & inverse
* Graph features: increasing, decreasing, root representations
* Systems of equations and inequalities
* Arithmetic and Geometric sequences and series

SAMPLE QUESTIONS

1. Consider $f(x) = \dfrac{x+1}{(x-1)^2}$ For the graph of $f(x)$:

   a) $y = 1$ is a horizontal asymptote   b) $x = 1$ is a vertical asymptote

   c) $x = -1$ is a horizontal asymptote   d) $y = 1$ is a vertical asymptote

   e) $x = 1$ is a horizontal asymptote

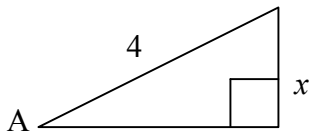2. An equation of the line passing through (-1, 2) and parallel to $2x - 3y = 4$ is

   a) $2x - 3y = -8$ b) $3x - 2y = -7$ c) $2x + 3y = 4$ d) $2x - 3y = 4$
   e) $2x - y = -4$

3. $\log y = 2 \ \log (x+1) - \dfrac{1}{2} \ \log x - 3 \ \log (x+2) \qquad y =$

a) $\dfrac{\log (x+1)^2 \ (x+2)^3}{x^{1/2}}$

b) $(x+1)^2 - x^{1/2} - (x+2)^3$

c) $\log \dfrac{(x+1)^2}{x^{1/2} + (x+2)^3}$

d) $\dfrac{(x+1)^2 \ (x+2)^3}{x^{1/2}}$

e) $\dfrac{(x+1)^2}{x^{1/2} \ (x+2)^3}$

4.

In the triangle on the left, $\csc A \bullet \cot B =$

a) $\dfrac{4}{\sqrt{16 - x^2}}$

b) $\dfrac{4}{\sqrt{16 + x^2}}$

c) $\dfrac{16 - x^2}{4x}$

d) $\dfrac{4\sqrt{16 - x^2}}{x^2}$

e) $\dfrac{4x}{16 - x^2}$

5. Consider the polar coordinate equation given by $r = 5 \sin (\phi)$. The corresponding equation, in rectangular coordinates, is given by:

a) $\sin(x) + \cos(y) = 5$

b) $x^2 + y^2 = 25$

c) $x^2 + 5x + y^2 = 0$

d) $x^2 + y^2 - 5y = 0$

e) $\sqrt{x + y} = 5$

ANSWERS:
1. b
2. a
3. e
4. a
5. d