

Pre-Calc November Brain Teasers

2 points

Give the domain, range and zeros of $y = \log_2(x - 2)$ and $y = \log_2 x - 2$.

2 points

Solve: $2^x + (8)(2^{-x}) = 9$

Simplify:

2 points

a. $\frac{3^{-2}}{3^{-3} + 3^{-2}}$

b. $\frac{2^{-1} - 2^{-2}}{2^{-1} + 2^{-2}}$

2 points

Solve $9x^2 + 25y^2 = 225$ and $x^2 + y^2 = 16$ simultaneously. Show all work!

2 points

A sector of a circle has a perimeter of 16cm and an area 12cm^2 . Find all possible arc lengths.