Math 1513 - College Algebra

Quiz #17 - 2011.10.13

Solutions

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1. Write the variation equation for the statement: G varies inversely with the square of the distance d.

   The equation would be $G = \dfrac{k}{d^2}$, where k is a constant.

2. Find all horizontal and vertical asymptotes of the rational function $r(x) = \dfrac{5x(x-1)(x+2)}{4(x+1)(x-2)(x-4)}$.

   The vertical asymptotes are $x = -1$, $x = 2$ and $x = 4$, which are the roots of the denominator (and are not roots of the numerator). Since the degree of the numerator is the same as the degree of the denominator, we take the ratio of the leading terms of each – the horizontal asymptote is $y = \dfrac{5}{4}$.