

Quiz 8

Let

$$H(x) = \frac{3 - 4x^2}{x^2 + x}.$$

1. Find an equation for the horizontal asymptote, if there is one.

Solution: By the asymptote theorem, the horizontal asymptote is given by $y = a_2/b_2 = -4/1 = -4$.

2. Find equations for each of the vertical asymptotes.

Solution: By the asymptote theorem, the vertical asymptotes are given by $x = -1$ and $x = 0$ since the zeros of the function $x^2 + x = x(x + 1) = 0$ are $x = 0$ and $x = -1$.