Math 151 - Quiz 8
October 28, 2015

Name key

Score _____

Show all work. Supply explanations when necessary.

1. (5 points) Find the domain and the zeros of the rational function $R(x) = \dfrac{x^2-4}{x^2+2x-3}$.

$$R(x) = \frac{(x+2)(x-2)}{(x+3)(x-1)}$$

DOMAIN : $\boxed{x \neq -3,\ x \neq 1}$ OR $(-\infty,-3) \cup (-3,1) \cup (1,\infty)$

ZEROS : $R(x) = 0 \Rightarrow \boxed{x = -2 \text{ OR } x = 2}$

2. (5 points) Find the vertical and horizontal asymptotes of the graph of $g(x) = \dfrac{2x^2+3x}{3x^2-48}$.

$3(x^2-16)$

H.A. $\dfrac{2x^2}{3x^2} = \dfrac{2}{3} \Rightarrow$ H.A. IS $\boxed{y = \frac{2}{3}}$

$$g(x) = \frac{x(2x+3)}{3(x-4)(x+4)}$$

V.A. $\boxed{x = 4,\ x = -4}$