College Algebra Quiz 6 Summer 2010

NAME: _____Score_____/10

Please **print** your name

No Decimals No mixed numbers No complex fractions No boxed or circled answers

1. T F The graph of a rational function is a smooth continuous graph with no sharp corners.
2. T F Every rational function has a vertical asymptote.
3. T F Every rational function has a horizontal asymptote.
4. T F The graph of a rational function can cross its horizontal asymptote.
5. T F The graph of a rational function can cross its vertical asymptotes.
6. T F A rational function can have more than one vertical asymptotes.
7. T F A rational function can have more than one horizontal asymptote.
8. T F If f is a rational function with domain elements a and b such that $a < b$ and $f(a) \neq f(b)$, the graph of f must have an x-intercept between a and b.
9. T F If the numerator and the denominator in the rule for a rational function f have the same degree, then the x-axis is the horizontal asymptote for that function f.
10. T F The zeros of a rational function are the zeros of the numerator which are not zeros of the denominator.

Remember: Asymptotes are lines!

11. Consider the function f whose rule is $f(x) = \dfrac{x+2}{x-5}$

    a. What is the domain of f? _____

    b. What are the zeros of f? _____

    c. What are the vertical asymptotes of f? _____

    d. What is the horizontal asymptote of f? _____

    e. Calculate f(7). _____