**MHF4U Advance Function**

**Chapter 3 Assignment #1**

This assignment will be used in calculations of your final mark. Communication will be accessed based on your mathematical communication. Show all your work.

**Name:**

1. Which of the following is ***not*** an asymptote of the rational function?

A. *x* = 1

B. *x* = -3

C. *x* = 5

2. Which statement describes the end-behavior around the vertical asymptote of?

F. As *x* ⭢ , *y* ⭢ - ∞

As *x* ⭢ , *y* ⭢ + ∞

G. As *x* ⭢ + ∞, *y* ⭢ – ∞

As *x* ⭢ - ∞, *y* ⭢ + ∞

H. As *x* ⭢ + ∞, *y* ⭢ +

As *x* ⭢ - ∞, *y* ⭢ -

J. As *x* ⭢ , y ⭢ + ∞

As *x* ⭢ , *y* ⭢ - ∞

3. What is the domain of ?

A. x ∈ R

B. x ∈ R, x ≠ 14

C. x ∈ R, x ≠ 12

D. x ∈ R, x ≠ 5

4. Which of the following is a ***rational*** function?

F. 

G.

H.

J. 

**5. Graph the following function. State asymptotes, end behaviour, intercepts, domain, and range.**

|  |
| --- |
| 5.  *x*-intercept(s):\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ *y*-intercept:\_\_\_\_\_\_\_\_\_\_  Vertical Asymptote(s):\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Horizontal Asymptote:\_\_\_\_\_\_\_\_\_\_\_  Domain:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Range:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

**6. Graph the following function. State asymptotes, end behaviour, intercepts, domain, and range.**

7. 

*x*-intercept(s):\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ *y*-intercept:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Vertical Asymptote(s):\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Horizontal or Oblique Asymptote:\_\_\_\_\_\_\_\_\_\_\_

Domain:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Range:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_