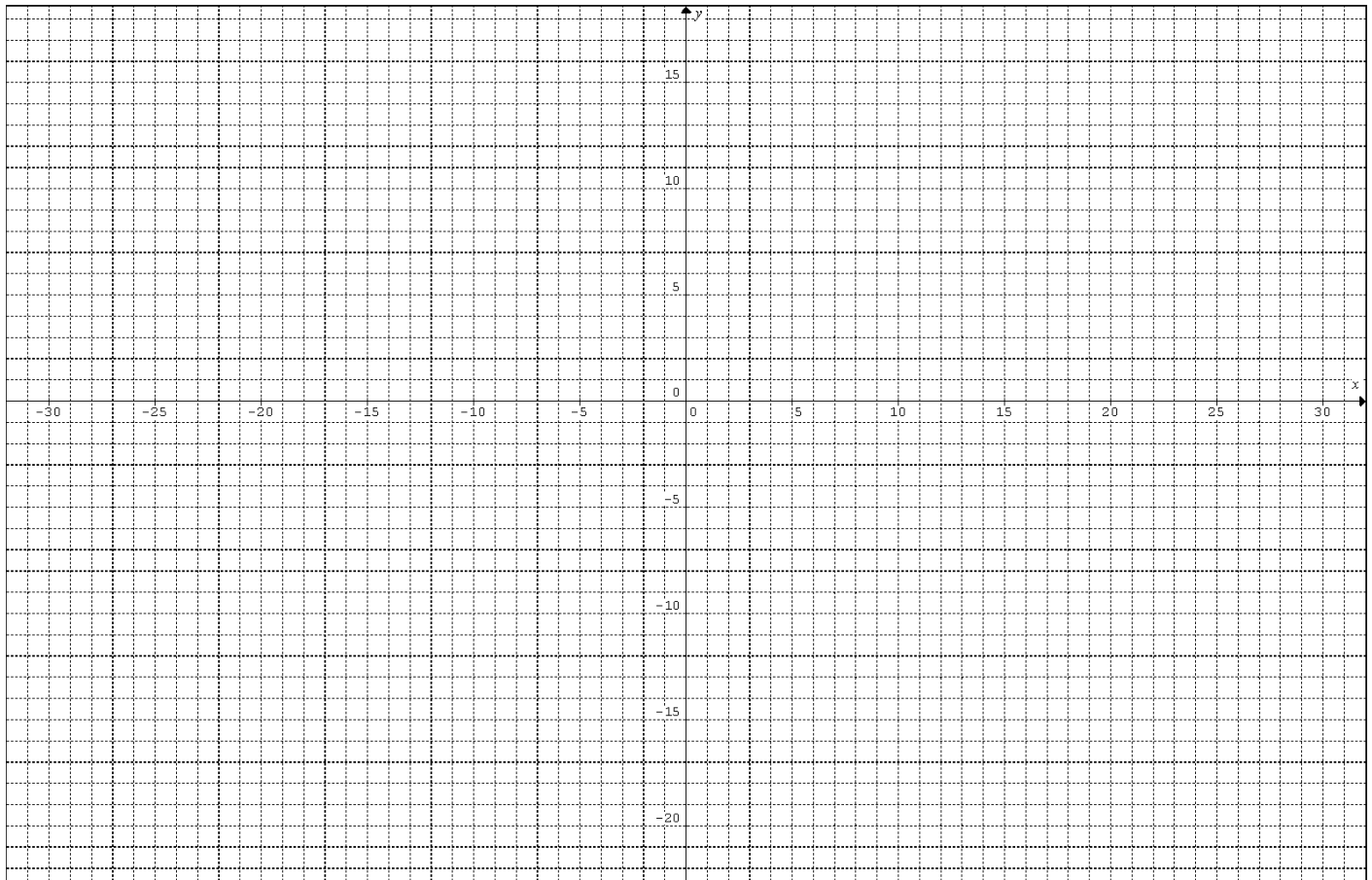


## Week 6 Math 1508 Worksheet

1. [sec 2.6]: Consider the function

$$f(x) = \frac{3x^3 + 4x^2 - 5x - 2}{6x^2 - x - 1}$$

- State the domain of the function.
- Identify all intercepts
- Find any vertical and/or slant asymptotes
- Plot 3 additional solution points as needed to sketch the graph of the rational function.



2. [3.1]: Use the following table to answer the questions

$3^0 = 1$	$3^{1.631} \cong 6$
$3^{0.631} \cong 2$	$3^{1.771} \cong 7$
$3^1 = 3$	$3^{1.893} \cong 8$
$3^{1.262} = 4$	$3^2 \cong 9$
$3^{1.465} \cong 5$	$3^{2.096} \cong 10$

Evaluate the following

- $\log_3(1) \cong$  \_\_\_\_\_
- $\log_3(9) \cong$  \_\_\_\_\_
- $\log_3(27) \cong$  \_\_\_\_\_

*[Notice that the table gives the solutions to the part a and b. Now try to evaluate the following using only the table above.]*

- $\log_3(6) =$  \_\_\_\_\_
- $\log_3(5) + \log_3(6) =$  \_\_\_\_\_
- $\log_3(30) =$  \_\_\_\_\_  
What can you say about e and f ?
- $\log_3\left(\frac{2}{5}\right) =$  \_\_\_\_\_
- $\log_3(2) - \log_3(5) =$  \_\_\_\_\_  
What can you say about g and h ?

3. [3.2] Evaluate the following

- $x^2 \cdot x^4 =$  \_\_\_\_\_
- $10^{0.699} \cdot 10^{0.845} =$  \_\_\_\_\_
- $\log(5) + \log(7) =$  \_\_\_\_\_
- $\log(35) =$  \_\_\_\_\_