 Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Vocabulary**

What is a rational function?



Plug in point into table for the equation of the parent function.

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| x | -4 | -2 | -1 | -½ | -¼ | 0 | ¼ | ½ | 1 | 2 | 4 |
| f(x) |  |  |  |  |  |  |  |  |  |  |  |

What is an asymptote?

What is a vertical asymptote?

What is a horizontal asymptote?



Go to [www.desmos.com](http://www.desmos.com) and launch calculator. Then, in your book, turn to page 561 and complete problems #3-10. **Do evens first with Desmos and odds without Desmos.**

 3.

 4.

 5.

 6.

 7.

 8.

 9.

 10.

 25.

 How does the variable “a” affect the parent function of a rational function?

**Key Concept**

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Go to [www.desmos.com](http://www.desmos.com) and launch calculator. Then, in your book, turn to page 561 and complete problems #11-23. **Do evens first with Desmos and odds without Desmos.**

 11.

 12.

 13.

 14.

 15.

 16.

 17.

 18.

 26.

 How do the variables “a,” “h,” and “k” affect the parent function of a rational function?

**Key Concept**



Ask Ms. U how to find x-intercept(s) and vertical asymptotes.



In your book, turn to page 561 and complete problems #27,29,30,31, and 33.

 27.

 29.

 30.

 31.

 33.

 

 On a separate sheet of paper do problems #37 and 38