1. What do you know about the graphs of each of the functions below if given:

|  |  |  |  |
| --- | --- | --- | --- |
| Given Information | Give the equation of the horizontal asymptote (if any) | Vertical asymptote(if any) | Is the function continuous at x=c? If not what type of discontinuity is present? |
|  |  |  |  |
|  |  |  |  |
|  and  |  |  |  |

1. For the piecewise function *f*, what do the following limits appear to be?



1. Sketch the graph of a function that has a  and *f*(2) = – 1
2. Sketch the graph of a function that has the given features.
3. Find the following limits
4. The graph of a function *f* whose domain is the closed interval [1,7] is shown below. Which of the following statements about f(x) is true? Which ones are false?



*f(x)* is continuous at x=3

*f(x)* is continuous at x=5

1. If y=7 is the horizontal asymptote of a rational function *f*, then which of the following must be true? **(Pick one)**
2. Explain why the limit exists even though there is a hole in the graph.