Pre-Calculus "Get ready" Session
Interpreting Graphs

Define:
1) Domain:

2) Range:

3) Function:

4) Maximum or Minimum:
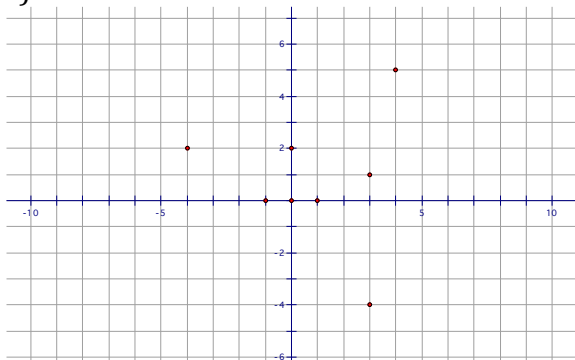

State the domain and range in the following examples. If practical, list the maximum or minimums.
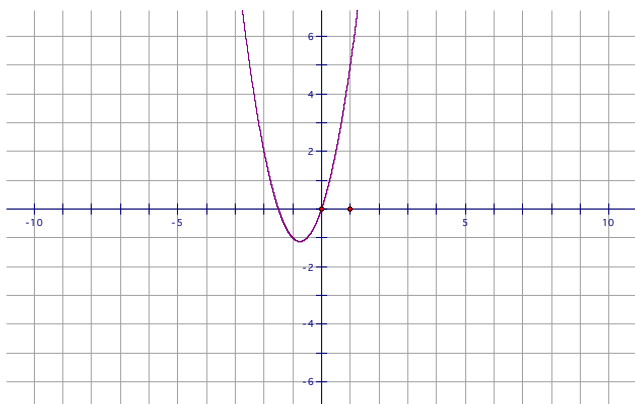5)   6) $y = 3x + 2$

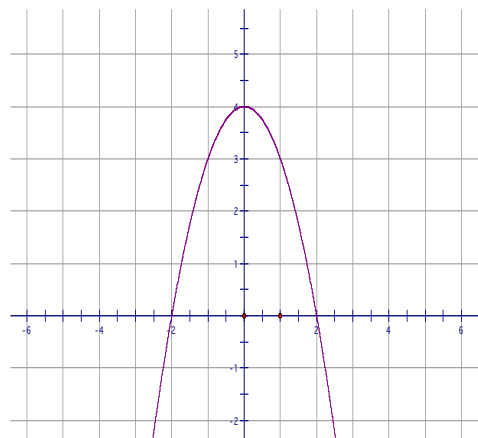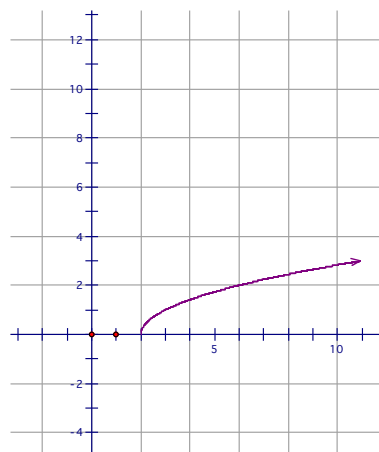| x	y
2	5
4	7
6	9
8	11

7)

8)

9)

10)

11)

12) When looking at a graph, what are you looking at to see the domain?

13) When looking at a graph, what are you looking at to see the range?

14) Look back at the graph in problem 8. As the x's got really big, what did the y's do? As the x's got really small (like -10,000), what were the y's doing?

15) Look back at graph in problem 9. As x approached infinity, what were the y's doing? If you gave a number to where the y's ended, what number would that be?

16) Look at problem 11. What is happening to the y's as x approaches infinity?

17) Would it be a good question to ask what is happening to the y's as x approaches $-\infty$ in problem 11? Why or why not?

Let's try some more graphs.

18) What are the y's doing as x approaches ∞? $-\infty$?
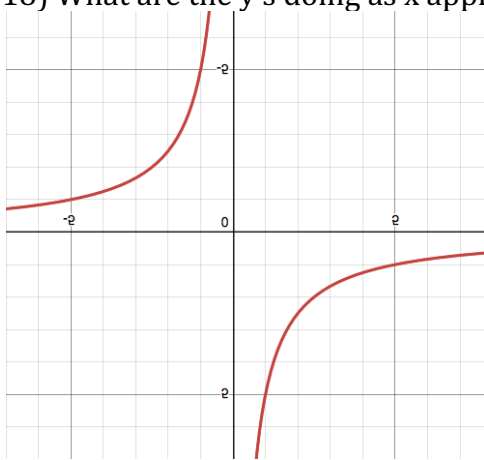
19) Here are a couple of tricky questions...
      a) What happens to the y's as x approaches 0 from the positive side of the graph?

      b) What happens to the y's as x approaches 0 from the positive side of the graph?

      c) Does this graph look "continuous"? Why or why not?

20) This graph is $y = \dfrac{x+3}{x-5}$. What are the y's doing as x approaches ∞? $-\infty$?
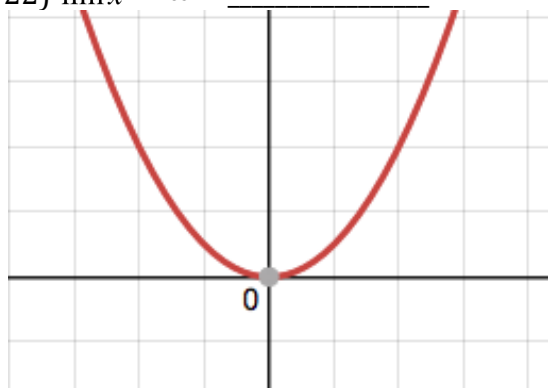
21) Here are a couple of tricky questions...

a) What happens to the y's as x approaches 5 from the positive side of the graph?

b) What happens to the y's as x approaches 5 from the positive side of the graph?

c) Why is "5" the magic number and not "0" this time?

Remember a LONG time ago (in Algebra 1) when teachers messed with your mind and instead of saying "y=" they started using "f(x)" instead? Get ready for ANOTHER mind mess!!!! Since mathematicians are lazy by nature, we come up with shortcuts for writing things. So now, instead of saying, "What is happening to the y's as x approaches infinity?" , we are going to write
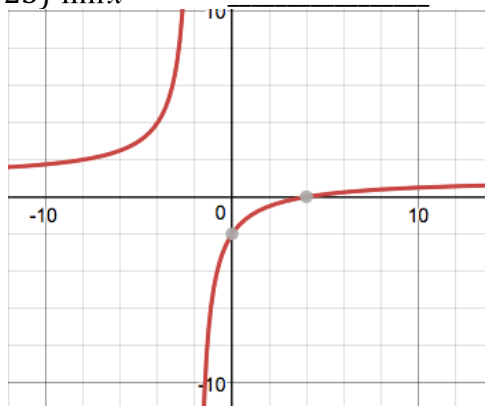$$\lim x \to \infty = \qquad \text{(Or something that looks like that.)}$$

Let's try it.......

22) $\lim x \to \infty =$ _____ $\lim x \to -\infty =$ _____

23) $\lim x \to \infty =$ _____ $\lim x \to -\infty =$ _____