**1.** What is a function of one argument?

It is a function that returns one value for a single given argument.

**2.** When would you use a (continuous) line to represent data? When do you use (discrete) points?

If one value is somehow a function of another then we should represent it as a continuous line. Otherwise, the data should be graphed discretely.

**3.** What function (mathematical formula) defines a slope?

s = y2 - y1/x2 - x1

**4.** What is a parabola?

Parabola is a graphical representation of the quadratic function (y = x2), every point of which is equdistant to the fixed line (directrix) and fixed point (focus).

**5.** How do you make an *x* axis? A *y* axis?

X and Y axes can be represented with the class “Axis”. The object of this class can be constructed by specifying the orientation of an axis (x or z), starting point, its length, number of notches and label. To position them in conventional manner (e.g. Cartesian coordinate system) both axes should have the same length and be equally distanced from the edges of the window.

**6.** What is a default argument and when would you use one?

Default argument is a value that a function or constructor will use if this parameter wasn’t set explicitly. Default argument should be used when most of the time the parameter will be set to the same value. Also, default arguments can be used as a substitute to function and constructor overloading: instead of defining several versions of constructor or function for use with different parameters, one version with default arguments can be defined.

**7.** How do you add functions together?

By passing one function to another

**8.** How do you color and label a graphed function?

name\_of\_function.set\_color(Color::color);

Text name\_of\_label {Point{x,y},”label”}

**9.** What do we mean when we say that a series approximates a function?

With each term series approximates the result of the function better.

**10.** Why would you sketch out the layout of a graph before writing the code to draw it?

To keep an idea of what every parameter of the graph means.

**11.** How would you scale your graph so that the input will fit?

Trial and error.

**12.** How would you scale the input without trial and error?

By creating a class Scale, which can do it

class Scale {

int cbase; //starting point

int vbase; //base value

double s; //scale

public:

int operator()(int v) {return cbase+(v-vbase)\*s;};

**13.** Why would you format your input rather than just having the file contain “the numbers”?

Data comes in a variety of formats so it is better to format the input and make it suitable for a lot of files rather than try to change the file to “plain numbers” format.

**14.** How do you plan the general layout of a graph? How do you reflect that layout in your code?

We should start with defining of graph’s parameters. The general layout should be drawn according to these paremeters. It will help us to change things fast if the first results won’t be adequate. Each of the values on graph should be labeled and have its own color.