* 1. Colour is made up of Red blue and Green with each component have 8 bits. So the number of bits needed to represent the full colour system would be 8+8+8=24. However, there is also the alpha element to take into consideration, which would also need 8 bits. So if this was also to be included than the total number of bits needed would be 32
  2. One is able to design a sphere in computer graphics by using lines of longitude and latitude. When doing this the mesh of the object is made up of various triangles, squares, rectangles and other quadrilaterals. There are squares across the centre of the sphere there are squares and the rectangles. However, as it goes from the centre to the poles of the sphere the mesh becomes quadrilaterals that are approaching the shape of a triangle until eventually they are triangles. Because of this it is not possible to only quadrilaterals or only triangles.
  3. This can be shown by using the equation of a circle:

Then to do if a point is inside the circle or not one can change the equation to be:

Where delta y is the y point of interest and delta x is the x point of interest and if the result of the equation above is less than or equal to r then it can be seen that the point is inside the circle.

* 1. In a similar fashion to the question above, use the general equation for a line:

And then this equation can be solved for the values of x and the value of y to see if the where the line crosses the rectangles edges.