Geometry of a Face

This picture shows the Face (yellow background, black outline of Face and mouth, black eyes). The cyan, red and pink lines are markers we have placed on the diagram to explain the geometry of the Face.

Eyes:

- Each red line goes from the center of the Face to the center of an eye.
- The length of each red line is 0.5 times the radius of the Face.
- Each red line is 45 degrees from the horizontal.
- From the preceding three facts, you can determine the placement of the eyes.
- The radius of each eye is 0.28 of the radius of the Face.

Mouth:

- An Arc2D.Double object is constructed by using the circle that the arc is part of.
- The mouth is part of the circle shown in cyan (top portion) and black (bottom portion).
- The radius of the mouth's circle is 0.7 times the radius of the Face.
- The center of the mouth's circle is the center of the Face.
- The rightmost point of the mouth is at an angle of -15 degrees along the mouth's circle.
- The leftmost point of the mouth is -150 degrees further along the mouth's circle.