

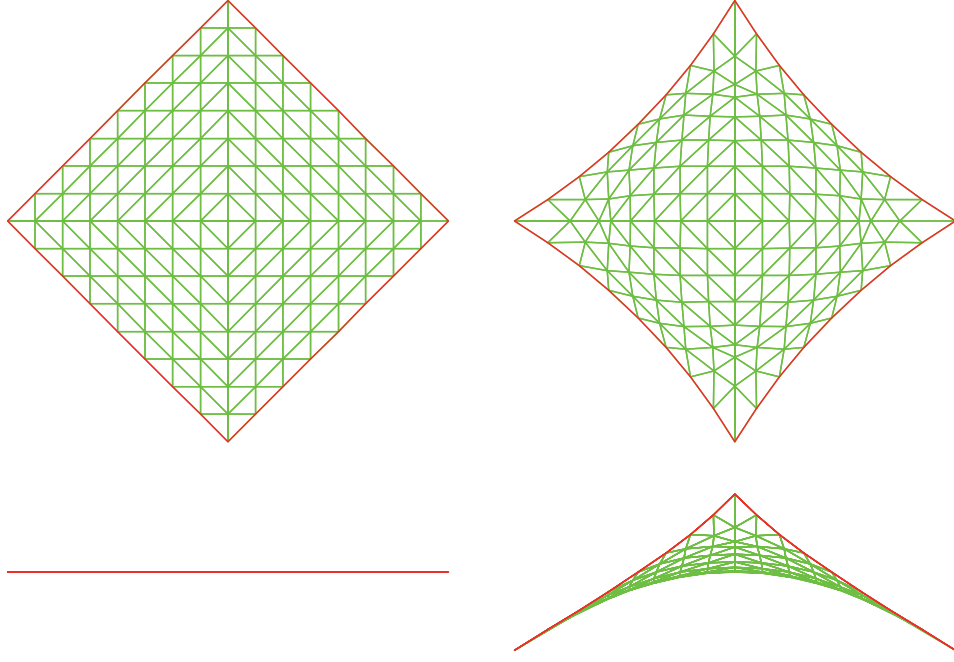


Fig. 8.

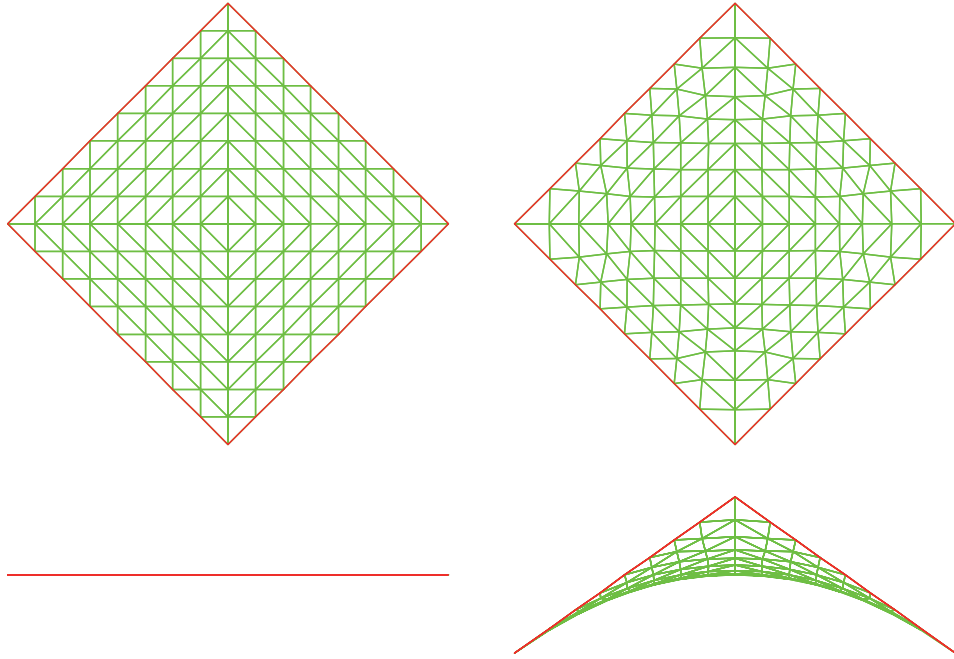


Fig. 9.

Note that $y(0) = c$. The value c is a solution of the following equation. In this example, $c = 0.8483379$.

$$\frac{2r}{h} = \frac{2c}{r} \cosh\left(\frac{h}{2c}\right).$$

Table 1 shows the relative error for $y(0)$ with different initial meshes.

Example 3: A frustum cone with thickness = 2, upper radius = 0.5, lower radius = 1 and height = 0.9. Figure 6 shows the meshes for the initial and final surfaces.

Example 4: On the top, Fig. 7 shows an initial path through the corner points of a rectangle with horizontal dimension

equal to 4 and vertical dimension equal to 2. The line elements have area = 1. On the bottom, Fig. 7 shows the final path.

The general problem of connecting n points by the shortest path length is called Steiner problem (Isenberg, 1992). Its solution contains straight lines intersecting at 120° . The number of intersections is between zero and $(n - 2)$.

Example 5: An initially flat square surface with thickness = 1, side = 1 and two opposite corners displaced by $+1/2$ while the two other opposite corners displaced by $-1/2$. The edges have line elements with area = 5. Figure 8 shows