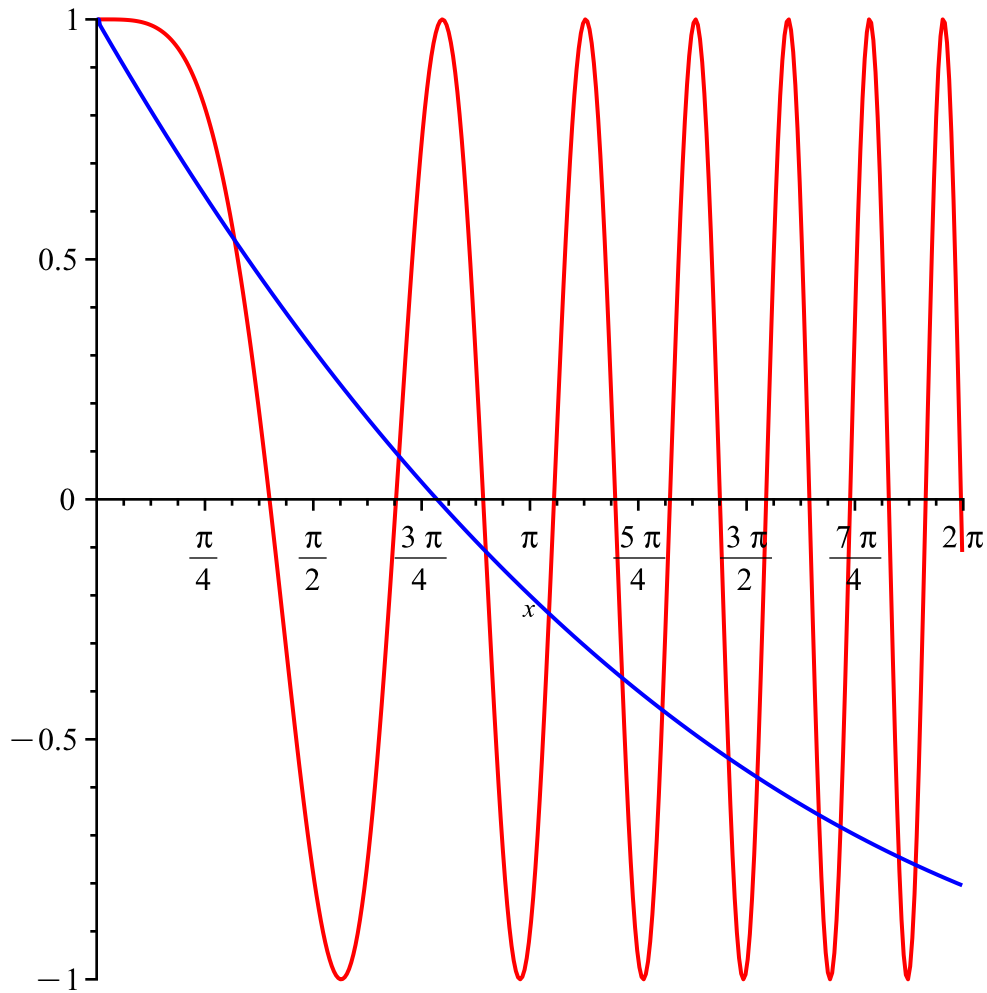


with(plots) :

plot([cos(x^2), cos(sqrt(x))], x=0..2*Pi, color=[red, blue])



$$\int_0^{\frac{(7 - \sqrt{13})}{2}} (-x + 3) dx - \int_0^{\frac{(7 - \sqrt{13})}{2}} \sqrt{x} dx$$

$$= -\frac{\left(\frac{7}{2} - \frac{\sqrt{13}}{2}\right)^2}{2} + \frac{83}{6} - \frac{17\sqrt{13}}{6} \quad (1)$$

evalf(%)

2.17731945

(2)

$$\int_0^{\sqrt{\frac{(7 - \sqrt{13})}{2}}} y^2 dy + \int_{\sqrt{\frac{(7 - \sqrt{13})}{2}}}^3 (-y + 3) dy$$

$$= \frac{\left(\frac{\sqrt{13}}{2} - \frac{1}{2}\right)^3}{3} + 6 + \frac{\left(\frac{\sqrt{13}}{2} - \frac{1}{2}\right)^2}{2} - \frac{3\sqrt{13}}{2} \quad (3)$$

evalf(%)

2.177319454

(4)