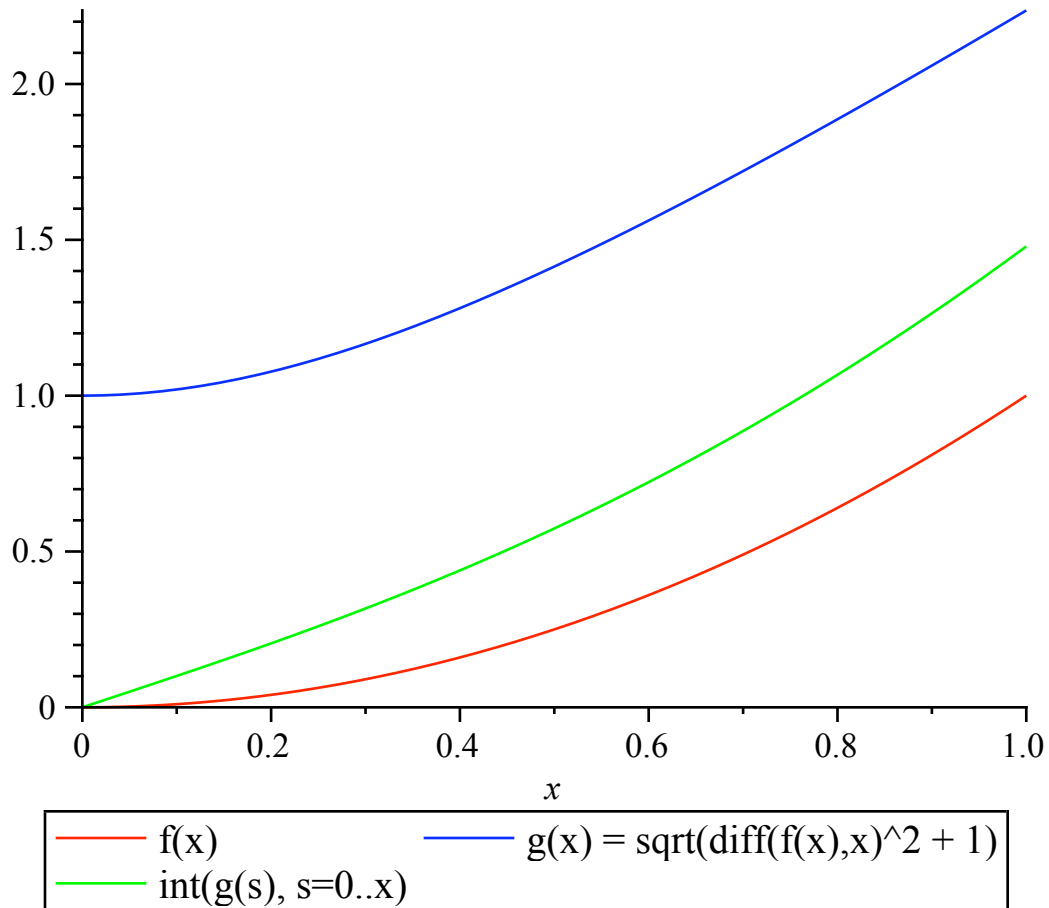


with(Student[Calculus1])

ArcLength(x², x = 0 ..1, output = plot)

The Arc Length of
 $f(x) = x^2$
on the Interval $[0, 1]$



ArcLength(x², x = 0 ..1)

$$\frac{1}{2} \sqrt{5} - \frac{1}{4} \ln(-2 + \sqrt{5}) \quad (1)$$

evalf(%)

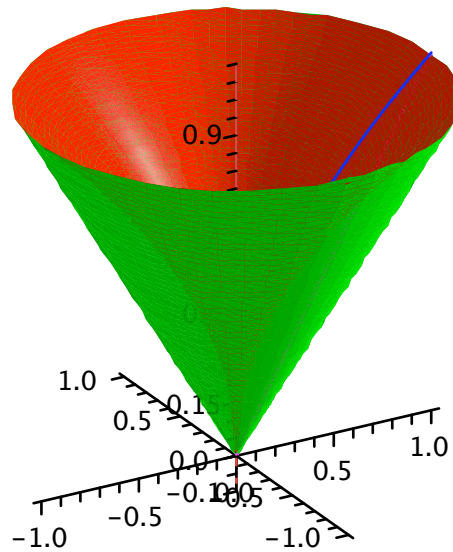
$$1.478942857 \quad (2)$$

VolumeOfRevolution(sqrt(x), x, x = 0 ..1, axis = vertical);

$$\frac{2}{15} \pi \quad (3)$$

VolumeOfRevolution(sqrt(x), x, x = 0 ..1, output = plot, axis = vertical);

The Volume of Revolution Around the Vertical Axis Between
 $f(x) = x^{1/2}$
and
 $g(x) = x$
on the Interval $[0, 1]$



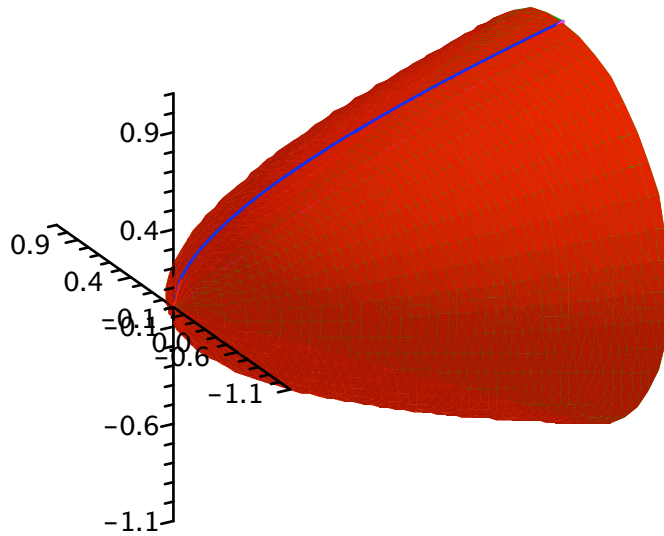
VolumeOfRevolution(sqrt(x), x, x = 0 .. 1, axis = horizontal);

$$\frac{1}{6} \pi$$

(4)

VolumeOfRevolution(sqrt(x), x, x = 0 .. 1, output = plot, axis = horizontal);

The Volume of Revolution Around the Horizontal Axis Between
 $f(x) = x^{1/2}$
and
 $g(x) = x$
on the Interval $[0, 1]$



[>