```
> restart;
> f := x->x+sin(x);
```
$$f := x \to x + \sin(x)$$

```
> f(3);
```
$$3 + \sin(3)$$

```
> V := int(Pi*f(x)^2, x = 0 .. 4);
```
$$V := 2\,\pi\,\sin(4) - \frac{1}{2}\,\pi\,\cos(4)\,\sin(4) + \frac{70}{3}\,\pi - 8\,\pi\,\cos(4)$$

```
> simplify(V);
```
$$-\frac{1}{6}\,(-12\,\sin(4) + 3\,\cos(4)\,\sin(4) - 140 + 48\,\cos(4))\,\pi$$

```
> V2 := Pi*((1/3)*4^3-(2*4)*cos(4)+2*sin(4)+2-(1/4)*sin(8));
```
$$V2 := \pi\left(\frac{70}{3} - 8\,\cos(4) + 2\,\sin(4) - \frac{1}{4}\,\sin(8)\right)$$

```
> A := V-V2;
```
$$A := 2\,\pi\,\sin(4) - \frac{1}{2}\,\pi\,\cos(4)\,\sin(4) + \frac{70}{3}\,\pi - 8\,\pi\,\cos(4)$$
$$- \pi\left(\frac{70}{3} - 8\,\cos(4) + 2\,\sin(4) - \frac{1}{4}\,\sin(8)\right)$$

```
> simplify(A);
```
$$0$$

```
> g := x->x/(1-x);
```
$$g := x \to \frac{x}{1 - x}$$

```
> V3 := int(Pi*g(x)^2, x = 0 .. 1/2);
```
$$V3 := \frac{3}{2}\,\pi - 2\,\pi\,\ln(2)$$

```
>
```