```
> restart : with(VectorCalculus) : with(LinearAlgebra) :
      SetCoordinates(cartesian[x, y, z]) :
> u := cos^3(t) - sin^3(t) :
> v := cos(t) + sin(t) :
> grad_v := VectorField([1, 1, 1]) :
> grad_u := VectorField([3·cos(t)^2, -3·sin(t)^2, 0]) :
> F := u·grad_v - v·grad_u :
> int(F • VectorField([-sin(t), cos(t), 0]), t = 0..Pi)
```

$$\frac{3\,\pi}{2} \qquad (1)$$

```
>
```