```
> restart : with(VectorCalculus) : with(LinearAlgebra) :
      SetCoordinates(cartesian[x, y, z]) :
>
> v1 := VectorField([diff(sin(theta)·cos(phi), theta), diff(sin(theta)·sin(phi),
      theta), diff(cos(theta), theta)]) :
>
> v2 := VectorField([diff(sin(theta)·cos(phi), phi), diff(sin(theta)·sin(phi),
      phi), diff(cos(theta), phi)]) :
> cross := CrossProduct(v1, v2) :
> n := sqrt(cross[1]^2 + cross[2]^2 + cross[3]^2) :
> int( int( sin(theta)·VectorField([sin(theta)·cos(phi), sin(theta)·sin(phi), 0])
      . cross/n, theta = 0..Pi/2 ), phi = 0..Pi/2 )
```

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

```
>
```