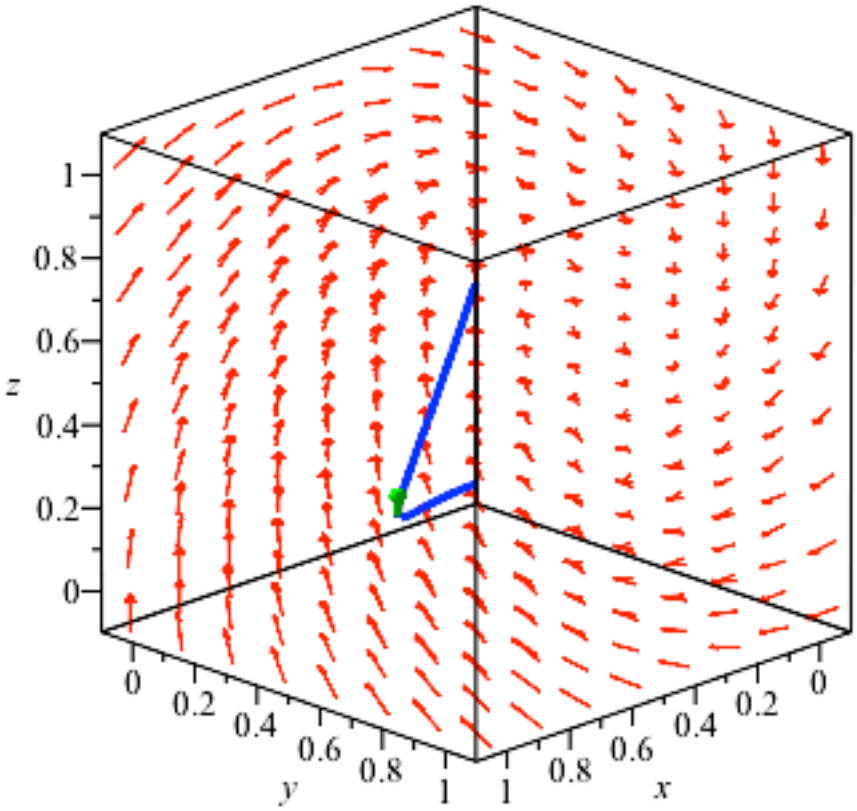
```
> with(Student[VectorCalculus]):
> F := (x, y, z) → VectorField(⟨y, z, x⟩):
> LineInt(F(x, y, z), Path(⟨t, t^2, t^3⟩, t = 0..1), output = plot, pathoptions = [color = blue],
      vectoroptions = [color = green], fieldoptions = [color = red, arrows = SLIM], scaling
      = constrained, axes = boxed, orientation = [45, 70]);
  LineInt(F(x, y, z), Path(⟨t, t^2, t^3⟩, t = 0..1), output = integral);
  LineInt(F(x, y, z), Path(⟨t, t^2, t^3⟩, t = 0..1));
```

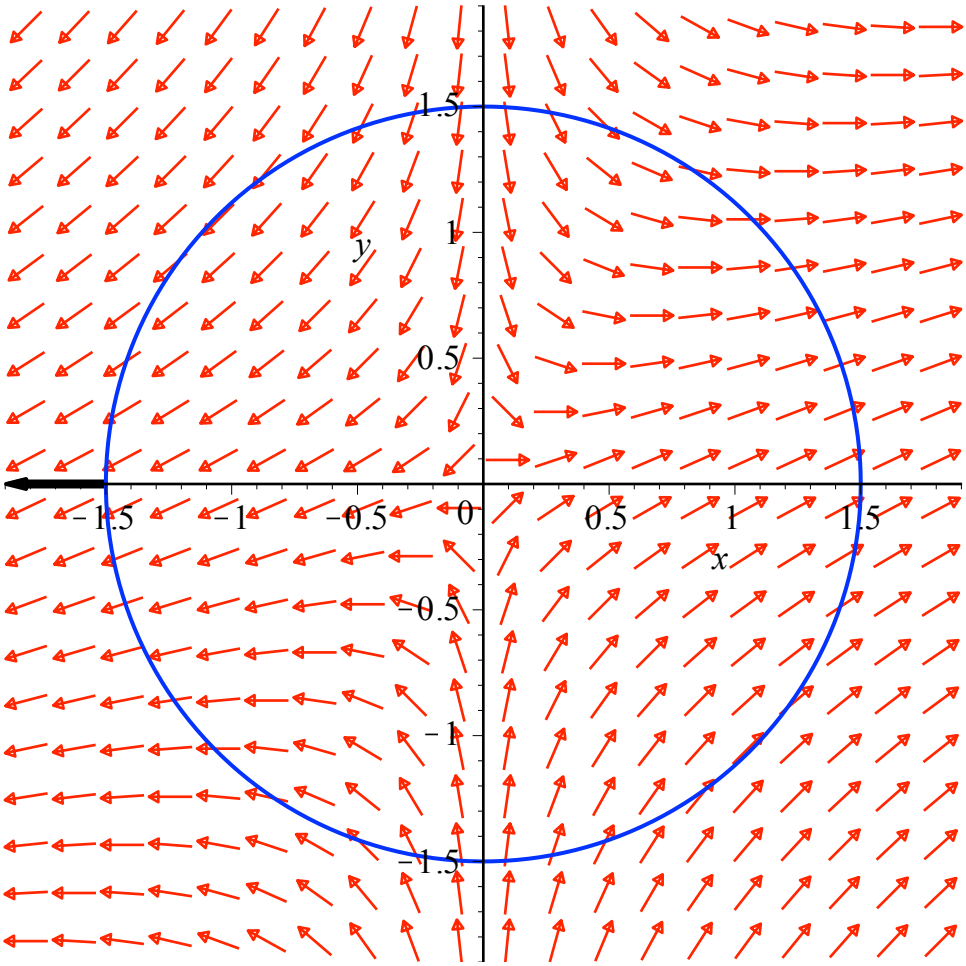


The path of integration, vector(s) tangent to the path, and vector-field arrows

$$\int_0^1 \left(t^2 + 2\,t^4 + 3\,t^3\right) dt$$

$$\frac{89}{60} \qquad \textbf{(1)}$$

```
> F := (x, y) → VectorField(⟨2 x, x − y⟩):
> Flux(F(x, y), Path(⟨1.5·cos(t), 1.5·sin(t)⟩, t = 0..2·Pi), output = plot, pathoptions = [color
      = blue], vectoroptions = [color = black], fieldoptions = [color = red, arrows = SLIM],
      scaling = constrained);
  Flux(F(x, y), Path(⟨a·cos(t), a·sin(t)⟩, t = 0..2·Pi), output = integral);
  Flux(F(x, y), Path(⟨a·cos(t), a·sin(t)⟩, t = 0..2·Pi));
```



The vector field arrows, the path, and vectors normal to the path.

$$\int_0^{2\pi} \left(2\,a^2\cos(t)^2 + (a\cos(t) - a\sin(t))\,a\sin(t)\right) dt$$

$$a^2\,\pi \qquad \textbf{(2)}$$