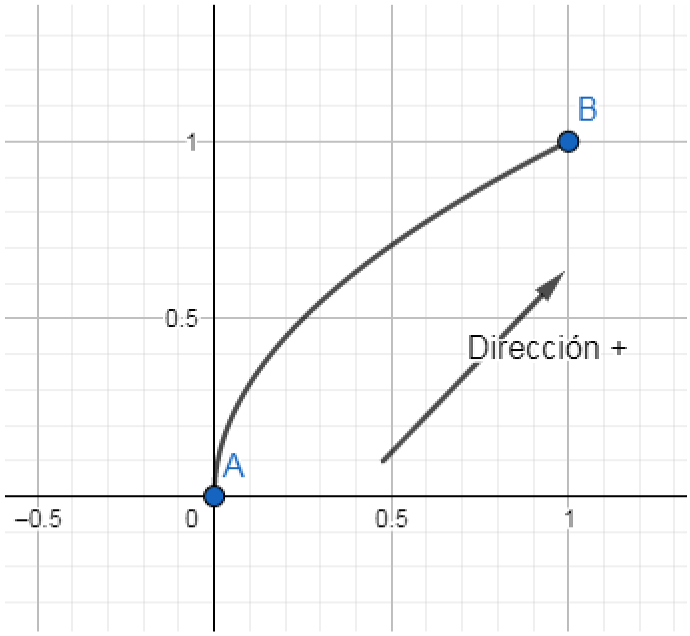
Resolución TP8:

Ejercicio 17-b

Sobre los campos conservativos (16-a, 16-d) verificar el resultado para la integral de línea para el recorrido:

$$\mathfrak{C}: \begin{cases} r(t) = (t, \sqrt{t}) \\ 0 \leq t \leq 1 \end{cases}$$



$\rightarrow$

15-a	15-d
$F(x,y) = (2x + 2y\,, 2x + 2y)$ $f(x,y) = x^2 + 2xy + y^2 + k$ $f(B) = f(1,1) = 1 \cdot 1^2 + 2 \cdot 1 \cdot 1 + 1 \cdot 1^2$ $f(B) = 4$ $f(A) = f(0,0) = 1 \cdot 0^2 + 2 \cdot 0 \cdot 0 + 1 \cdot 0^2$ $f(A) = 0$ $I = \int_{\mathfrak{C}} F d\mathfrak{C} = f(B) - f(A)$ $I = 4 - 0$ $I = 4$	$F(x,y) = (y - \pi y sen(\pi xy)\,, x - \pi x sen(\pi xy))$ $f(x,y) = xy + \cos(\pi xy) + k$ $f(B) = f(1,1) = 1 \cdot 1 + \cos(\pi \cdot 1 \cdot 1)$ $f(B) = 1 - 1 = 0$ $f(A) = f(0,0) = 0 \cdot 0 + \cos(\pi \cdot 0 \cdot 0)$ $f(A) = 0 + 1 = 1$ $I = \int_{\mathfrak{C}} F d\mathfrak{C} = f(B) - f(A)$ $I = 0 - 1$ $I = -1$