so $r(t)$ will be in form $a + xb$ where x is the variable

line is parallel to $[12-1, 4-1, 26-1]$
$= [11, 3, 25]$

So $r(t) = [1 + 11t, 1 + 3t, 1 + 25t]$

5. Evaluate $\int_C (x+2)\,ds$ where C is $r(t) = t\,i + \frac{4}{3}t^{\frac{3}{2}}\,j + \frac{1}{2}t^2\,k$ on $0 \le t \le 2$

$r(t) = [t, \frac{4}{3}t^{\frac{3}{2}}, \frac{1}{2}t^2]$

find $r'(t) = [1, 2t^{\frac{1}{2}}, t]$

~~for $|r'(t)| = \sqrt{1^2 + 2^2 t + t^2} = \sqrt{t^2 + 4t + 4}$~~

Find vector field as function of $r(t) = F(r(t)) = t + 2$

Setup integral

$$\int_C f(x,y)\,ds = \int_0^2 F(r(t)) \cdot r'(t)$$

$$= \int_0^2 [t+2, 0, 0] \cdot [1, 2t^{\frac{1}{2}}, t]\,dt$$

$$= \int_0^2 t + 2\,dt = \frac{1}{2}t^2 + 2t \Big|_0^2 = \boxed{2}$$