

# L<sup>A</sup>T<sub>E</sub>X Example

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## Question 1

### Part A

The velocity of the particle is given by  $v(t) = at$ .

To find the position, velocity is integrated with respect to time.

$$x(t) = \int_{t_0}^{t_1} v(t) dt = \frac{a}{2} t^2 + x_0$$

### Part B

The positions for 1s and 2s are given.

t (s)	x (m)
1	$\frac{1}{2}$
2	2

## Question 2

The vector field  $\vec{v} = \langle y, -x \rangle$  is shown.



## Question 3

The following equations

$$2x + 3y$$

$$4x + 5y$$

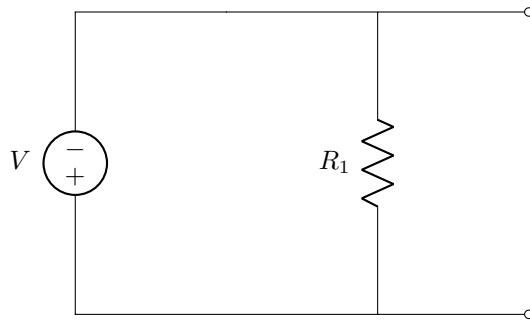
are given by the following matrix

$$\begin{bmatrix} 2 & 3 \\ 4 & 5 \end{bmatrix}$$

## Question 4

$$\begin{aligned}a &= 2x + 2y \\ &= 2(x + y)\end{aligned}$$

## Question 5



## Question 6

Listing 1: FORTRAN example

```
PROGRAM EXAMPLE
  INTEGER :: N = 3
  N = N + 1
  PRINT *, N
END PROGRAM EXAMPLE
```