

# SiQuENC: Algebra-based 1-d kinematics

Use lots of space. It's OK if many of the following sections take a page each.

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## Neatly and graphically represent situation(s)

- Carefully read the problem three times.
- Dashed bubble around system for which motion is being studied
- Label time points of interest (e.g. use Roman numerals).
- Label origin and + direction.
- Translate the words “free-fall,” “projectile motion,” and “under the influence of Earth’s gravitational pull alone” to mean that the system’s acceleration is  $9.8 \text{ m/s}^2$  downward.
- Identify requested unknowns.

**Initial**  $t_i =$

$x_i =$

$v_{x,i} =$

**Between**  $t_i$  and  $t_f$

$a_x =$

**Final**  $t_f =$

$x_f =$

$v_{x,f} =$

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## Graphically represent quantities and their relationships

- Arrange dots on page to represent positions at different times.
- Attach arrows to dots to represent corresponding velocities.
- As much as is reasonably possible, draw to scale.

If you can do it legibly, you can overlay these representations of quantities over your representation of situation(s).

- Graph kinematics quantity(ies) as function(s) of time.
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## Identify relevant allowed starting point (in) equation(s)

- Definitions
  - Laws
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## Use numbered steps to show REASoNing

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## Communicate

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