

Constrained Motion Problem Worksheet

(Adapted from Van Heuvelen,
Overview Case-Study Physics)

- 1. Pictorial Representation**
- ___ coordinate axes
 - ___ sketch of situation, labeled with symbols

List known quantities:

List unknown quantities:

- 2. Physical Representation**
- ___ describe the constraint:
 - ___ force diagram for each object, listing agent for each force
 - ___ net force points in direction of acceleration

- 3. Mathematical Representation**
- Apply Newton's second law in component form and solve.
 - Avoid plugging in numerical values until necessary.

4. Evaluation

- ___ correct sign?
- ___ appropriate units?
- ___ reasonable magnitude?