

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?