

## *A Method for using Newton's Second Law*

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- Step 1: Draw a *good* picture.
- Step 2: Select a “system.”
- Step 3: Identify all of the forces *on* the system.
- Step 4: Draw a “free body diagram.”
- Step 5: Pick a coordinate system and determine the angles that the forces and acceleration make with the coordinate axes.
- Step 6: Write Newton's Second Law.
- Step 7: Apply it to the system.
- Step 8: Write the component equations.
- Step 9: Determine what each component is in terms of the vector magnitude and trigonometric functions of the associated angles.
- Step 10: Simplify the resulting equations and figure out where to go from here.