Steps for Solving Newton's Laws Problems in 2-D:

1. Draw a diagram showing all of the objects involved.
2. Use arrows to show all of the forces acting on the objects. These may include:
    a. Weight
    b. Normal force (if the object is pressing against a surface, the normal force is directed outward perpendicularly from the surface)
    c. Friction (if the object is being pulled across a surface, or an attempt is being made)
    d. Any other pushes or pulls (rope tension, pushing force, etc.)
3. Use arrows to show acceleration.
4. Resolve any forces that have wacky angles
    a. In general, resolve any vectors that are not horizontal or vertical. Resolve these vectors into X and Y components.
    b. On inclines, resolve weight into components that are perpendicular and parallel
5. Go as far as you can in calculating the values of the forces listed in #2 and #4, above. For some of these forces you will probably not be able to get rid of all of the variables. For example, for an X component of an applied force, you may have to leave it as "0.47F"
6. Use the two different methods to write two equivalent expressions for net force. Do this in the X dimension and do it in the Y dimension. You can start with either dimension.
    a. $\sum F_x$ = sum of all forces in the X dimension = ma_x
        i. To get the "sum of all forces" in the X dimension, find all of the horizontal forces and add them up. Forces in one direction should be positive, and forces in the other should be negative. You decide which direction you want to be positive.
        ii. If there is a force of friction acting in this dimension, and you do not know its direction, first complete part i., above, with all of the non-friction X forces. That should give you an idea of the direction of movement. Add-in the force of friction in the direction opposing movement.
        iii. Getting ma_x is straightforward. Multiply mass by x acceleration. If there is no acceleration in the X dimension, then $\sum F_x = m(0) = 0$
        iv. You may not have actual values for some of these quantities. In that case, write the variable in your expressions. For example, if you don't know the acceleration, leave it as "a." You will be able to solve for these missing pieces later on.
    b. $\sum F_y$ = sum of all forces in the Y dimension = mass (Y dimension acceleration). Follow the same steps as you did for the $\sum F_x$ expressions.
7. Writing expressions for $\sum F_x$ and $\sum F_y$ should leave you with two equations. There should be no more than two unknowns. You should be able to solve for these unknowns.