Problem P02-1. Print this template and write your solution in the spaces indicated. This is the paper you'll fax to the instructor.

A car is traveling on a straight, level road at a constant speed of 20.0 m/s. Just as the car reaches a hill, the engine dies. The car coasts up the hill, losing speed at a constant rate of 8.0 m/s^2. The distance from the bottom of the hill to the top (along the road) is 30.0 m. Show that the car will not reach the top of the hill before coming to a stop and rolling back down.

Strategy: Calculate the distance that the car would have to travel along the hill before coming to a stop, assuming that sufficient distance were available.

Don't write in this column.	**Do your work in this column.**
Step 1. After reading the problem, draw a diagram in the cell to the right. On the diagram, indicate the origin and the direction you select for +x. Label any other relevant quantities.	
Step 2. List all the given information. Identify the givens with the same symbols that are used in the dvat equations, namely, x, x_o, v, v_o, a, and t. If values are known or defined to be 0, say so. Given the direction you selected for +x, make sure all the given information has the correct signs.	
Step 3. State the unknown that you're to find. Identify it with the proper symbol. (See the strategy above.)	
Step 4. Look at the list of dvat equations in Table 2-4 and select one for which all quantities are known except for the unknown that you're solving for. Write the equation to the right.	

Step 5. Algebraically solve the dvat equation you selected for the unknown. That means to solve in symbolic form without numbers.	
Step 6. Substitute the given values with units. Do the arithmetic to arrive at the final answer.	
Step 7. Apply sign, units, and sensibility checks.	
Step 8. Now go back and answer the original problem statement.	