## Car Acceleration from Forces

Step 1: The car below starts at rest. Draw in the forces and all the other parameters that are given to you in your problem. Find the acceleration of the car and show this calculation neatly below.


Step 2: Fill in your variables into the chart below and then use your equations of motion to find the unknown values. Show all of your work below.

| $\Delta x$ |  |
| :---: | :--- |
| $v_{i}$ |  |
| vf |  |
| a |  |
| t |  |

Step 3: Enter your answers into the program to make sure you did everything correctly

Step 4: (Optional) If you could remove the resistive forces on the car, how much less distance and time would be required to reach the top speed.

| $\Delta x$ |  |
| :---: | :--- |
| $v_{i}$ |  |
| $v f$ |  |
| $a$ |  |
| $t$ |  |

