$\qquad$ Date Due $\qquad$

## Homework 2 - Forces

1. Draw labelled arrows to show the forces on the accelerating car.

2. Why would the overall force on the car be $\mathbf{2 0 N}$ if the forward force from the engine is 30 N and the backwards friction force is 10 N ?
3. Describe how the brakes on a bike use friction to slow the bike down.
4. In 1912 the "Titanic" sunk. What does this tell us about the sizes of the force due to gravity and the buoyancy force acting on the "Titanic"?
5. When people come to Dr. Murray's house for dinner, those who wear stiletto heels always make a mark on the wooden floor but the people with normal heels don't. Why is this?
