1. Bruce Lee is fighting a worthy opponent. Lee strikes the challenger in the chest launching him into the wall behind him. If the opponent weighs 78 kg and impacts the wall with a horizontal acceleration of $6\text{m/s}^2$, how much force does Bruce lee hit with?

   \[ F = 468 \text{ N} \]

2. The 5.6-kg flowerpot is suspended by two chains from the ceiling. The chains make an angle of $25^\circ$ with the vertical. Determine the tension in one of the chains.

   \[ T = 30.3 \text{ N} \]

3. An NFL game is taking place this Sunday, a player weighing 68 kg and collides by another player who weighs 100kg. Who exerts the larger force on the other player? Whose magnitude of acceleration is larger?

   Same Force, Smaller player has larger acceleration (Newtons 3\text{rd} and 2\text{nd} laws respectively)

4. A car has stalled on the train tracks. The driver of the vehicle hears a 123,000kg train coming down the tracks at a speed of 45m/s. Superman flies down and impacts the train 70m away from the car. What force must Superman apply to the train in order to stop it right before it contacts the car.

   \[ F = 1.76 \times 10^6 \text{ N} \]
5. Yoda is training Luke Skywalker to become a Jedi. To prove to Luke that size and power are independent, Yoda lifts an X-wing fighter out of a swamp using the force. The fighter weighs 8500kg and the water has a resistance force of 10,000N and a depth of 6m. It takes 12s for Yoda to lift the fighter out of the water. Find the force Yoda exerts on the fighter.

\[ F_{\text{yoda}} = 94000 \text{ N} \]

6. A bookstore receives books from one supplier that are shipped to the school in large crates equipped with rope handles on all sides. An employee pulls the crate with a force of 692 N at an angle of 36.0° above the horizontal to accelerate a 80-kg crate of books. The coefficient of friction between the crates and the vinyl floor is 0.55. Determine the acceleration experienced by the crate.

\[ a = 4.4 \text{ m/s}^2 \]