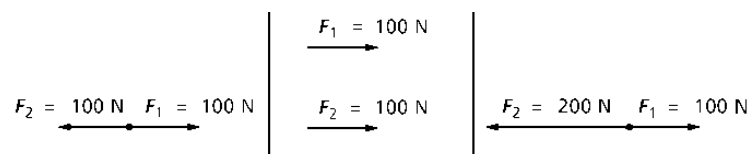


## Section 4.1 Notes: *Force and Motion*



1. What is a **force**?
2. What is the **system**? the **agent**?
3. What is the metric unit for force? Define it.
4. Explain the difference between a **contact force** and a **field force**. List several examples of each.
5. What is a **free-body diagram**? How do you draw them?

6. Define **net force**:



7. State **Newton's second law** in both words and with an equation:
8. What force is required to accelerate a **10-kg** object **3.0 m/s/s**? *Show work*
9. An **2.0-kg** object is acted upon by a net force of **4.6 N**, what is its acceleration?
10. A **1000-kg** sports car accelerates from rest to **19 m/s** in **6.3 s**. What force is required?
11. What is **equilibrium**? What does it mean?
12. State **Newton's First Law**:
13. What is **inertia**? How is it measured?
14. Explain briefly how **Galileo** came up with his idea of **inertia**.