

REVIEW QUESTIONS

Chapter 3

1. Identify the law of motion that best relates to each statement below:
  - a) A heavy box requires more force to lift compared to a lighter box. \_\_\_\_\_
  - b) When its brakes fail to engage, the car plunges off the curved road. \_\_\_\_\_
  - c) The shooter feels the rifle pushing into his shoulder after firing the shot. \_\_\_\_\_
  - d) The truck requires more braking force to stop it compared to the sport's car. \_\_\_\_\_
  
2. Calculate the weight of a 5.0-kg object on surface of the Earth.
  
  
  
  
  
  
  
  
  
  
3. A 20-kg object weighs 195 N on the top of a mountain. What is the force of gravity on this object?
  
  
  
  
  
  
  
  
  
  
4. How much force is needed to accelerate a 70-kg rider and his 200-kg motorcycle at  $4 \text{ m/s}^2$ ?
  
  
  
  
  
  
  
  
  
  
5. A child is swinging a yo-yo in a circle. What happens if the string breaks? Why?



10. Complete each statement below with a suitable word or phrase:

- A) Mass is a measure of \_\_\_\_\_.
- B) The Newton unit of force is equal to \_\_\_\_\_ in SI units.
- C) According to Newton's 2<sup>nd</sup> law, an object's acceleration is \_\_\_\_\_ proportional to its mass.
- D) When the distance between two objects increases by 2 times, the gravitational force between them \_\_\_\_\_ by \_\_\_\_\_ times.
- E) A force is a quantity that can produce \_\_\_\_\_.
- F) An object will NOT remain at rest or in uniform motion if acted on by a(n) \_\_\_\_\_ (3 words)