

Name: _____

Mr. Croom's Physics

Date: _____

Chapter 4: Force and the Law of Motion

6. A rope breaks when the tension exceeds 240 N. What is the maximum acceleration downward that a 170 kg load can have without breaking the rope?

7. A stunt driver drives a new Lexus into a pile of sand. It hits the pile with a velocity of 20 m/s and comes to a stop in 0.5 second. If the car's weight is 12,000 N, find the net force on the car during this collision.

8. Given two identical objects, the one with more force on it will have more _____.
9. If you apply the same force to two objects, one much more massive than the other, the one with _____ mass will accelerate more.
10. Total force and acceleration of an object are always in _____ direction.
11. (Giancoli, p.103 #10) REVIEW: A stone hangs by a fine thread from the ceiling and a section of the same thread dangles from the bottom of the stone. If a person gives a sharp pull downward on the dangling thread, where is the thread likely to break: Below the stone or above the stone? What if the person gives a slow and steady pull? Explain your answer.