

Name \_\_\_\_\_ Hour \_\_\_\_\_

## Forces Practice Quiz

What is a force? \_\_\_\_\_ Unit? \_\_\_\_\_

What **unit** will you be left with if you divide force by mass? \_\_\_\_\_

If you apply constant force, how is the  $a$  affected by  $m$ ? \_\_\_\_\_

Why is the force of friction negative? \_\_\_\_\_

What slows down a falling object? \_\_\_\_\_

What is inertia? \_\_\_\_\_

How do you find weight if you know lbs? \_\_\_\_\_

A semi and small car collide with 20,000 N of  $F$ . Which feels greater deceleration? \_\_\_\_\_

What is a g-force? \_\_\_\_\_

What is meant by 0.25 g's? \_\_\_\_\_

A heavy car weighs 3500 lbs and needs a force of 6550 N to accelerate from rest to a speed of 65 mph. Calculate the time it will take to reach that speed.

You are riding the Northern Lights (I think it is now called Ghost Zone) ride at MOA and have a scale in your chair. Your resting weight is 175 lbs. At the top your weight is 105 lbs and at the bottom you find your weight to be 245 lbs.

a. Find the **acceleration** at the bottom when you feel heavier. (it will be negative) How many **g-forces** do you feel?

b. Find your **acceleration** at the top when you feel lighter. How many **g-forces** do you feel?

A toy car (mass=25.5 g) starts at rest and travels 2.3 meters in 1.75 sec. What **force** did the car need to move that fast? What is the **weight** of the car in Newtons?