

Name _____ Period _____ Date _____

Force & Acceleration – Ch. 4

Part A – Force Calculations

1. How much force is needed to accelerate a 1000-kg car at a rate of 3 m/s^2 ?

GIVEN	WORK
ANSWER:	

2. If a 70-kg swimmer pushes off a pool wall with a force of 250 N, what is her acceleration?

GIVEN	WORK
ANSWER:	

3. Find the mass of a football player who weighs 1250 N.

GIVEN	WORK
ANSWER:	

Part B – Read the following statements regarding the examples of the falling elephant and feather from class. Indicate whether each statement is True (T) or False (F).

Falling Objects without Air Resistance

4. ____ The elephant has a greater weight and therefore falls faster.
 5. ____ The elephant and the feather each have the same weight and therefore fall at the same rate.
 6. ____ The elephant has both greater weight and greater inertia than the feather and therefore falls at the same rate as the feather.

Falling Objects with Air Resistance

7. ____ The elephant experiences less air resistance than the feather and therefore falls faster.
 8. ____ The elephant weighs more than the feather. Since it takes more air resistance to counteract its weight, the elephant fall faster.
 9. ____ The elephant has a greater acceleration due to gravity than the feather and therefore falls faster.

