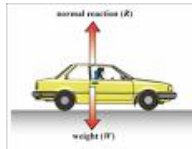


Worksheet:
Word Problems



Name _____
Date _____
Period _____ Table _____

Name That Formula!

F	Wt	D	Mo	(V _f - V _i)
M A	M G	V T	M V	A T
F = M x A	Wt = M x G	D = V x T	Mo = M x V	(V _f - V _i) = A x T
M = F / A	M = Wt / G	V = D / T	M = Mo / V	A = (V _f - V _i) / T
A = F / M	G = Wt / M	T = D / V	V = Mo / M	T = (V _f - V _i) / A
Force = N	Weight = N	Distance = m	Momentum	(V _{final} - V _{initial})
Mass = kg	Mass = kg	Speed = m/s	= kg-m/s	= m/s
Accel = m/s ²	Gravity = m/s ²	Time = s	Speed = m/s	Accel = m/s ²
	Newton = kg•m/s ²		Mass = kg	Time = s

Problems: Choose the correct formula to answer the following questions. **Show Your Work** in 3 steps:
1) correct formula, 2) plug in numerical values, 3) answer with correct units

1. If a force of 50 N causes a toy train to accelerate at a rate of 20 m/s², what is the **mass** of the toy train?

2. At 9:43 a.m. a rain cloud is pouring at the Oaks Mall. Students at LCMS, 16 km away, notice that a sudden cloudburst begins at 9:50 a.m. during class changes. What is the **velocity** of the rain-cloud?

3. A large trash bag weighs 750 N. What is the **mass** of the trash bag?

4. An Alien from planet SMCL weighs 900 N and has a mass of 88 kg. What is the **gravity** of SMCL?

Circle one: Would your weight be **smaller, greater, or the same** if you lived on SMCL?

5. An elephant is riding a snowboard down Mammoth Mountain (and now you know how it got its name! . . . back to the problem . . .) The speed of the snowboard (and the elephant – duh!) is 30 m/s and has a momentum of 600,000 kg•m/s. What is the **mass** of the elephant? (WHEW!)

Part B: Which would have the greater **momentum**, a 60,000 kg freight train traveling at 40 m/s or the mammoth snowboard-riding elephant?

Circle one (greatest momentum): **elephant, or freight train, or both are the same**

6. A 140 kg cougar is heading north chasing a 12 kg fox through the 700 meter forest for 32 seconds before he catches him/her. What is the velocity of the **cougar** during the chase?