Name _____ Hour _____

Bucket Day on Momentum

1. What is the letter for momentum? P
2. What is the momentum of a school bus parked outside? 0
3. What is the equation for momentum? $p = m \cdot v$
4. What is the letter for impulse? I
5. What is the unit for impulse? (2 possible answers) kg·m/s or N·sec
6. What unit do we typically use to measure force? N
7. What is the unit for momentum? kg·m/s
8. When you catch a water balloon, what variable do you control as you cradle it? Δt
9. What is a g force? how many times you weight you are experiencing
10. What is the equation for when two objects explode apart? $m_1v_1 = m_2v_2$
11. If you have a mass of 50 kg and are traveling at 2 m/s, what is your momentum? 100 kg·m/s
12. What two variables does momentum depend on? mass, velocity
13. What does the conservation of momentum state? momentum in a collision remains constant (not lost or gained)
14. Which type of collision has occurred if the objects bounce apart? elastic
15. Which type of collision has occurred if the objects stick together? inelastic
16. If you triple the velocity while keeping mass constant, what happens to the momentum? x3
17. If you double the mass while keeping velocity constant, what happens to the momentum? x2
18. If you divide momentum by mass, what UNIT do you end up with? m/s
19. If you divide momentum by velocity, what VARIABLE do you end up with? mass
20. If you double the force to stop an object, but the momentum remains constant, what should happen to the time? (Use $F\Delta t = m\Delta v$ equation to help) $F\Delta t = m\Delta V = (\frac{1}{2}\Delta t)$
21. If you triple the time it takes to stop an object, but the momentum remains constant, what should happen to the force of the impact? (Use $F\Delta t = m\Delta v$ equation to help)

$\frac{1}{3}F$