Physics 30 Worksheet # 1: Momentum

- 1. Calculate the momentum of a 1.60×10^3 kg car traveling at 20.0 m/s.
- 2. Calculate the momentum of a 2.50×10^3 kg truck traveling at 110 km/h.
- 3. How fast is a 1.50 kg ball moving if it has a momentum of 4.50 kg.m/s?

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- 4. A 75.0 g ball is rolling at a speed of 57.0 cm/s. Calculate the ball's momentum.
- 5. A 5.00 kg ball accelerates at a rate of 2.00 m/s² for 1.50 seconds. Calculate the ball's momentum after the acceleration.
- 6. A 2.00 kg rock is dropped from the top of a 30.0 m high building. Calculate the ball's momentum at the time that it strikes the ground.
- 7. A 1.00 kg rock is thrown up into the air from ground level at a speed of 8.00 m/s. The ball travels up to a maximum height, then returns to the ground. Calculate the rock's momentum as it strikes the ground.
- 8. A 1.50 kg rock is thrown up into the air from ground level, reaches a maximum height of 7.00 m, then returns to the ground. Calculate the rock's momentum as it strikes the ground.