



Welcome back, Bill Wiecking

>>Working in AP Physics B (SC651)

Current Course

- Course Home
- Edit Course Info
- Syllabus/Assignments
- Grades
- Student administration
- Instructor administration

My Courses

- AP Physics B
- AP Physics C
- Honors Physics
- ePhysicsC
- ePhysicsE

My Account

- Change password
- Manage courses
- Homework Home
- Logout

ch 8 exam

Chapter 8: Momentum

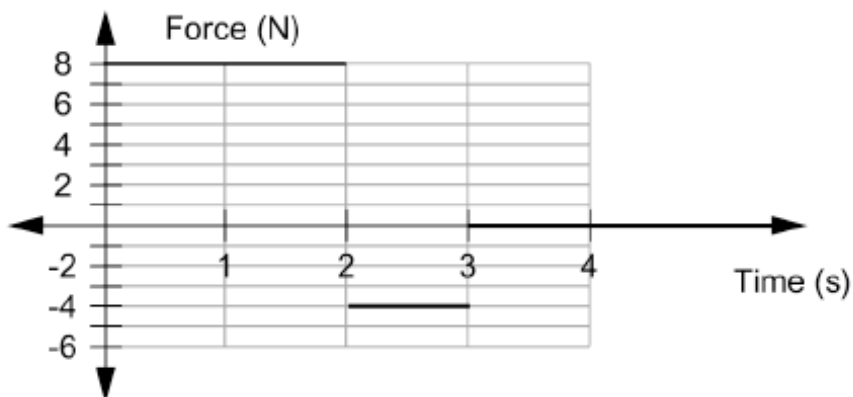
Section 1: Momentum

8.1.5 A net force of 30 N is applied to a 10 kg object, which starts at rest. What is the magnitude of its momentum after 3.0 seconds? **(7.00)**

kg·m/s

Section 3: Impulse

8.3.8 The graph shows the net force applied on a 0.15 kg object over a 3.0 s time interval. (a) What is the average force applied to the object over the 3.0 seconds? (b) What is the impulse? (c) What is its change in velocity? **(5.00)**



- (a) N
- (b) kg·m/s
- (c) m/s

Section 6: Conservation of momentum

8.6.3 A rifle fires a bullet of mass 0.0350 kg which leaves the barrel with a positive velocity of 304 m/s. The mass of the rifle and bullet is 3.31 kg. At what velocity does the rifle recoil? **(5.00)**

m/s

Section 18: Inelastic collisions

8.18.2 During a snowball fight, two snowballs travelling towards each other collide **(5.00)** head-on. The first is moving east at a speed of v_1 m/s and has a mass of 0.450 kg. The second is moving west at 13.5 m/s. When the snowballs collide, they stick together and travel west at 3.50 meters per second. What is the mass of the second snowball?

 kg

Section 19: Sample problem: ballistic pendulum

8.19.1 A dart gun suspended by strings hangs in equilibrium. The mass of the gun is **(5.00)** 355 grams, not including a dart. The gun fires a 57.0 gram dart, causing it to swing backwards. The gun swings up to a height of 18.3 centimeters. What was the dart's speed in meters per second just after firing?

 m/s

Section 20: Center of mass

8.20.1 How far is the center of mass of the Earth-Moon system from the center of **(5.00)** the Earth? The Earth's mass is 5.97×10^{24} kg, the Moon's mass is 7.4×10^{22} kg, and the distance between their centers is 3.8×10^8 m.

 m

[Back to assignments list](#)

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