

Momentum HW 1 (8476089)

Due: Tue Jan 12 2016 08:00 AM PST

Question

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1. Question Details

OSColPhys1 8.1.001. [2153186]

(a) Calculate the momentum of a 1950 kg elephant charging a hunter at a speed of 7.50 m/s.

 kg·m/s

(b) Compare the elephant's momentum with that of a 0.0400 kg bullet fired at a speed of 600 m/s.

 (momentum of elephant / momentum of bullet)

(c) What is the momentum of the 90.0 kg hunter running at 7.50 m/s after missing the elephant?

 kg·m/s

Additional Materials

[Reading](#)

2. Question Details

OSColPhys1 8.1.004. [2153356]

(a) What is the momentum of a 1.20×10^4 kg garbage truck moving at 29.0 m/s?

 kg·m/s

(b) At what speed would an 8.00 kg trash can have the same momentum?

 m/s

Additional Materials

[Reading](#)

3. Question Details

OSColPhys1 8.3.023. [2153595]

Train cars are coupled together by being bumped into one another. Suppose two loaded train cars are moving toward one another, the first having a mass of **150,000** kg and a velocity of **0.300** m/s, and the second having a mass of **125,000** kg and a velocity of **-0.120** m/s. (The minus indicates direction of motion.) What is their final velocity?

 m/s

Additional Materials

[Reading](#)

4. Question Details

OSColPhys1 8.5.043. [2153700]

In a circus an elderly performer thrills the crowd by catching a canon ball shot at him. The cannon ball has a mass of **16.0** kg and its horizontal component of velocity is **9.50** m/s when the **65.0** kg performer catches it. If the performer is on nearly frictionless roller skates, what is his recoil velocity?

 m/s

Additional Materials

[Reading](#)

Assignment Details

Name (AID): **Momentum HW 1 (8476089)**Submissions Allowed: **10**Category: **Homework**

Code:

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