Worksheet: Conservation of Momentum Practice

$$m_1v_{1initial} + m_2v_{2initial} = m_1v_{1final} + m_2v_{2final}$$

NAME:

A 2,600 kg SUV traveling west at 15 m/s collides head on with a 1,300 kg four door sedan traveling east at 20 m/s. Determine the speed and direction of the two cars immediately after impact if they lock together. - 4 pts -

Givens	Work

Answer

Two adjacent students stand on stationary skateboards, face each other, and push apart. The skateboarder on the left weighs 65 kg, the one on the right is 85 kg. If the lighter skateboarder moves at 3.2 m/s, determine the speed and direction of the heavier skateboarder. - 4 pts -

Givens	Work

Answer

A baseball sits on a tee-ball stand. A child hits it with a bat moving east at 6.0 m/s and the ball flies off at 15 m/s. Determine the speed and direction of the bat immediately after impact. Tee-ball equipment is smaller than regular baseball equipment. The ball weighs 125 g and the bat 500 g. - 4 pts -

Givens	Work

Answer

A 3.0 kg fish is swimming at 1.5 m/s to the right. It swallows a 0.25 kg fish swimming to the left at 4.0 m/s. What is the velocity of the larger fish immediately after lunch? - 4 pts -

Givens	Work

Answer