

## Review - Momentum

- 1.) Is there a difference between  $\vec{p}$  and  $\overline{\Delta p}$ , if so what is the difference?
- 2.) What are the units of change in momentum and of impulse?
- 3.) Is impulse the same as force, if not what is the difference?

Do - page 193 #1-4, 6, 8, 16, 18, 19, 21, 23.

### Answers

1.)  $351 \text{ kg} \times \frac{\text{m}}{\text{s}}$

2.)  $4.8 \text{ N} \times \text{s}$

3.)  $42 \frac{\text{m}}{\text{s}}$

4a.)  $60.0 \text{ N} \times \text{s}$

b.)  $20.0 \frac{\text{m}}{\text{s}}$

6a.)  $2.35 \times 10^4 \text{ kg} \times \frac{\text{m}}{\text{s}}$

b.)  $2.6 \times 10^4 \text{ N}$

8.)  $-2.5 \times 10^2 \text{ N}$

16a.)  $7.8 \times 10^2 \text{ kg} \times \frac{\text{m}}{\text{s}}$

b.)  $-7.8 \times 10^2 \text{ kg} \times \frac{\text{m}}{\text{s}}$

c.)  $7.8 \times 10^2 \text{ kg} \times \frac{\text{m}}{\text{s}}$

d.)  $-7.8 \times 10^2 \text{ kg} \times \frac{\text{m}}{\text{s}}$

e.)  $-6.1 \frac{\text{m}}{\text{s}}$

18a.)  $1.0 \times 10^2 \text{ kg} \times \frac{\text{m}}{\text{s}}$

b.)  $-5.0 \times 10^2 \text{ kg} \times \frac{\text{m}}{\text{s}}$

19.)  $11 \frac{\text{m}}{\text{s}}$

21.)  $10.6 \frac{\text{m}}{\text{s}}$

23.) 1:-1.5, the smaller mass student must have the large speed.