

**Challenge Problem 20**

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Cars  $B$  and  $C$  are at rest with their breaks off. Car  $A$  plows into car  $B$  at high speed, pushing  $B$  into  $C$ . If the collisions are completely inelastic (i.e. the cars stick together) what fraction of the initial energy is dissipated in the second collision (with car  $C$ )? The cars are of identical construction.

