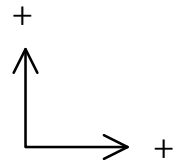


## P11 - 5.2 - Conservation of Momentum



A pool player shoots the cue ball with the momentum of 8 kg meters per second at the eight ball at rest. The cue ball comes to a complete stop, the eightball will continue with the momentum of 8 kg metres per second.

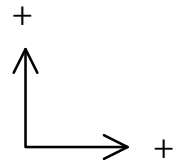
What is the change in momentum on the Cue ball?

What is the change in momentum of the eight ball?

A bullet is fired from a gun with the momentum of 60 kg metres per second. What is the recoil momentum of the gun?

An arrow is shot from a bow with the momentum of 20 kilograms metres per second. What is the recoil momentum of the bow?

## P11 - 5.2 - Conservation of Momentum



A football player with the momentum of 700 Ns south collides with another football player with the momentum of 500 Ns north. If they stick together what is their final momentum?

A hockey player Alina with the momentum of 550 Ns east collides with another hockey player Laura with the momentum of 800 Ns West. If they bounce off each other and Alina's final momentum is 200 Ns west. What is Laura's final momentum and direction signified by positive or negative?