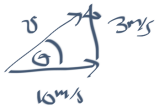
Hockey puck problem

$\Delta p = F\Delta t = (30N)(0.01sec) = 0.3\ kg\ m/s$

- If puck mass is 100grms then $\Delta p = m\Delta v$

$$\frac{0.3}{0.1} = \Delta v = 3^m/_s$$

- So the puck slows down to $7^m/_s$ if the westward force was applied.
- If the force were directed north, then the new velocity would be northeast:



$$v = \sqrt{10^2 + 3^2}$$

$$v = \sqrt{109}$$

$$\theta = \arctan\left(\frac{3}{10}\right)$$