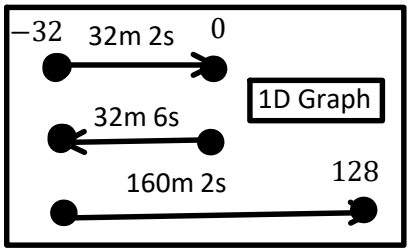
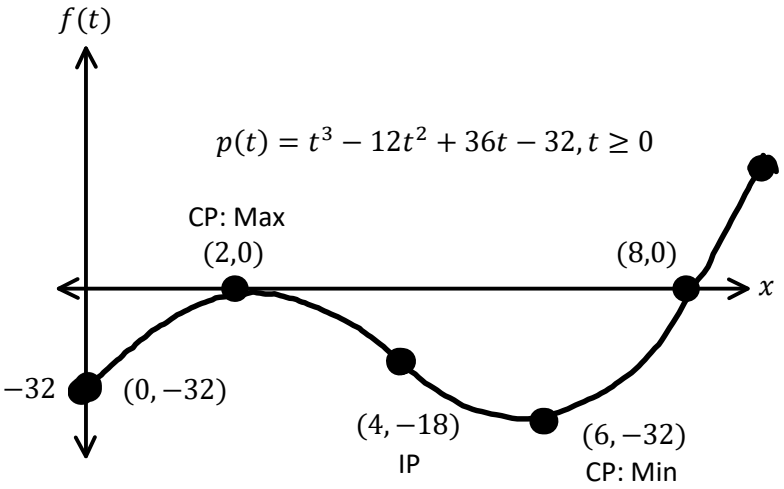
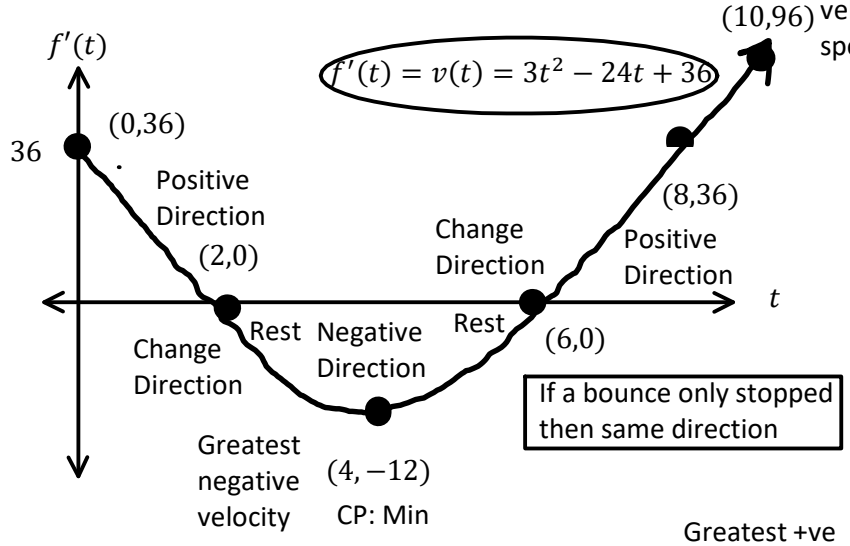
C12 - 3.3 - Part Mot/Int Notes

A particle starts moving along a straight line East by the function $p(t)$; $0 \le t \le 10$.

1D





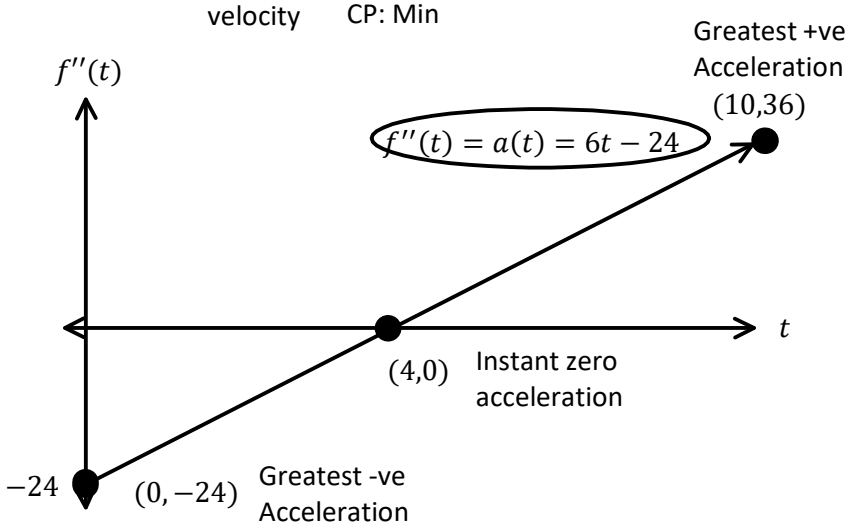


Integrals Ch5

$$p(t) = s(0) + \int_0^t v(t)\,dt$$

$$p(t) = -32 + \int_0^t (3t^2 - 24t + 36)\,dt$$

$$p(t) = t^3 - 12t^2 + 36t - 32$$



Integrals Ch5

$$v(t) = v(0) + \int_0^t a(t)\,dt$$

$$v(t) = 36 + \int_0^t (6t - 24)\,dt$$

$$v(t) = 3t^2 - 24t + 36$$