

AP Physics 1
Formula Sheet

1. $PE = mgh$ (*Gravitational Potential Energy*)

2. $KE = \frac{1}{2}mv^2$ (*Kinetic Energy*)

3. $TE = PE + KE$ (*Total Energy*)

4. $PE = \frac{1}{2}kx^2$ (*Springs*)

5. $KE = \frac{1}{2}mv^2$ (*Springs*)

6. $F = -kx$ (*Force of Spring*)

7. $W = Fd \cos\theta = m a d \cos\theta$ (*Work*)

8. $\vec{F} = m\vec{a}$

9. $P = \frac{W}{t} = \frac{Fd}{t} = Fv$ (*Power*)

10. $\vec{p} = m\vec{v}$ (*Momentum*)

11. $\vec{p}_i = \vec{p}_f$

12. $\Delta \vec{p} = mv_f - mv_i$

13. $\vec{F} = \frac{\Delta \vec{p}}{\Delta t} = \frac{m\Delta \vec{v}}{\Delta t}$

14. $I = \Delta \vec{p} = \vec{F}\Delta t$