Physics
Chapter 5 Review Guide

Vectors.

You should be comfortable breaking vectors into their components and conversely, using components to define a vector's magnitude and direction.
Vector addition/subtraction

$$v_x = v_o \cos\theta,\ v_y = v_o \sin\theta,\ \tan\theta = \frac{v_y}{v_x},\ a^2 + b^2 = c^2$$

Projectile Motion:

Use the acceleration equations to solve ballistics problems.

$V = \Delta x/\Delta t$ $a=(V_f-V_i)/t$ $v=(v + v_0)/2$ $g = -9.8 m/s^2$

$v=v_0+at$ $x=x_0+v_0t+1/2at^2$ $v^2=v_0^2+2a(x-x_0)$ $x=y$ $a = g$

Free Fall
No initial velocity X or Y velocity

Horizontally Projected
Problems with initial x velocity ($\vec{a} = 0$) $v_{xf} = v_{xo}$

Projectiles with $\vec{v}_{xo}$ & $\vec{v}_{yo}$
Footballs & soccer balls

Short Essay: Putting it all together

Internet Site: - http://northwoodschool.org/mattroy/

Tutorials, animations, demonstrations and other good stuff