1 $\vec{r}(t) = x(t)\hat{x} + y(t)\hat{y}$

2 $\vec{v}(t) = v_x(t)\hat{x} + v_y(t)\hat{y}$

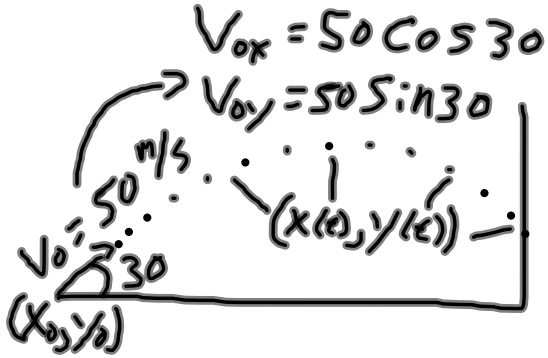
These are the most general expressions for position and velocity vectors with uniform (or zero) acceleration in two dimensions.

3 $x(t) = x_0 + v_{0x}t + \frac{a_x t^2}{2}$

There's no need to be scared of them, they're the same two equations we used for the one dimensional motion unit. The only difference is that now we're moving in two dimensions and we need to keep x and y separate.

4 $v_x(t) = v_{0x} + a_x t$

Equation 1 is made up of two versions of equation 3.
Equation 2 is made up of two versions of equation 4.
Does that make sense? Really think about it. 1 and 2 just tell us where things are and how they've moving at all times.



For projectiles:

$a_x = 0 \qquad a_y = -g = -10\ m/s^2$

But that's just one of the many possibilities with 2-d motion.