1) Derive maximum height of projectile launched at angle θ and initial speed v_0.

- Use equation for Δv^2 in terms of g and y.

2) Derive trajectory of projectile (i.e. $y(x)$)

- solve for t from x equation
- plug t into y equation and simplify

3) Derive range of projectile launched at angle θ and initial speed v_0 (assume the final height is the same as the initial height).

- Use projectile motion trajectory equation to solve for change in x

4) Derive a formula relating Δv^2 to an object's acceleration a and change in position Δx (1D).

- Use work-energy theorem to derive this

5) Work out the units of the gravitational constant G (MKS).

- Use Newton's law of gravity to deduce the units