Assignment 3.2 – Functions

Create an R Markdown document that outputs either an HTML or DOC file.

a. Complete the following steps:

   a.1. Generate 10 random, whole numbers using `sample()` and store them in a vector named `hop`.

   a.2. Create a function that will take a single number `x` and return the results of the following calculation: $2x^2 - 3x + 12$

   a.3. Use your function to calculate the result of each element of `hop` individually. Store the result in a new vector called `hop.up1`. *Note: you must do this to each of the ten elements individually.* Hint: create `hop.up1` first as a vector of `NA`'s.

   a.4. Now use your function to perform a vectorized calculation on `hop` and store this as `hop.up2`.

   a.5. Last, use `all.equal()` to test whether or not `hop.up1` and `hop.up2` are the same.

b. Make a function that reports the data in `state.x77` (in `data("state")`) for a specific state defined by the user.