FUNCTIONS AND GRAPHS

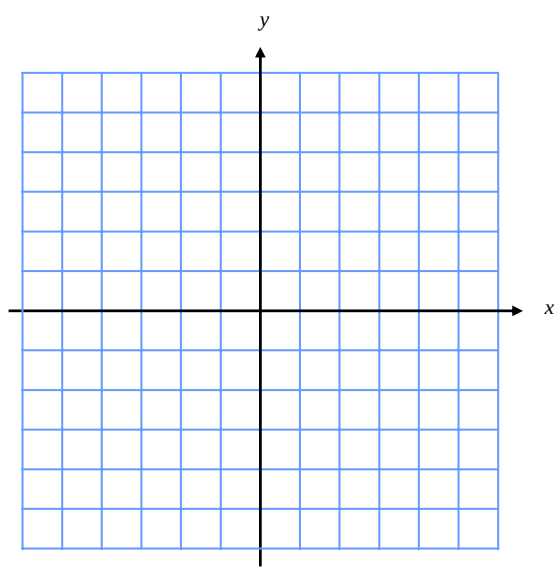
Let the functions *g* and *h* be defined as follows:

$$g(x) = \sqrt{-2x+6}$$
$$h(x) = 2x^2 - 3x + a$$

a) Find $h(g(2))$.

b) Consider the function $f(x) = \begin{cases} g(x), & x > 1 \\ h(x), & x \le 1 \end{cases}$. In order for *f* to be continuous, $g(1)$ must equal $h(1)$. Find the value of *a* that makes $g(1) = h(1)$.

c) Using your value of *a* from above, make an <u>accurate</u> graph of $f(x)$.



d) What is the domain and range of $f(x)$?