1. A function f is defined by $f(x) = -x^2 + x - 4$. Find the following values of f(x). Your answers to this question will all be numbers.

a)
$$f(-3) =$$

b)
$$f(0) =$$

c)
$$f(4) =$$

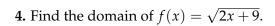
2. A function *g* is defined by $g(t) = 5t^2 + t + 3$. Express the following function values in terms of *x*:

a)
$$g(x+2) =$$

b)
$$g(x) + 2 =$$

- **3.** Let h(x) be defined on positive real numbers as follows:
 - 1. Start with a number *x*.
 - 2. Take the square root of the number and add 6 more than the number you started with.
 - 3. Square the result and add 3 more than the original number.
 - 4. Finally, divide the result by 2 less than the square of the original number.

Write a formula for h(x).



5. Find the domain of
$$g(x) = \sqrt{x^2 - 16}$$
.

- **6.** Let h(x) be a *linear function* such that h(3) = 3 and h(4) = 0.
 - a) List two points which are on the graph of h(x).
 - b) h(x) is linear, so its graph is a line. Find the slope of the graph of h(x) using your answer to a).
 - c) Find an expression for h(x).