9. Determine the zero(s) and the initial value of the following functions.
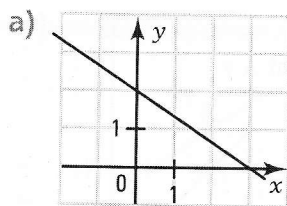
a)
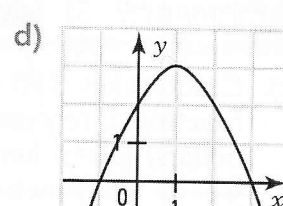

zero: **3**

initial value: **2**

b)
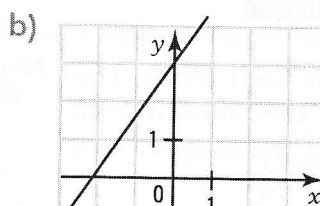
zero: **-2**

initial value: **3**

c)
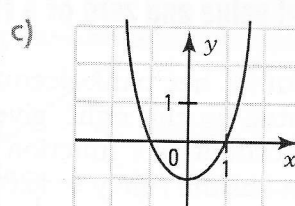
zeros: **-1 and 1**
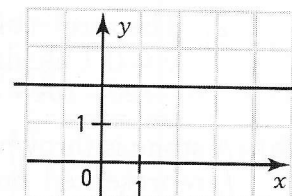
initial value: **-1**

d)

zeros: **-1 and 3**

initial value: **2**

10. The function f on the right is represented by a horizontal line.

a) What can we say about the zeros of this function? Justify your answer.

   The zeros do not exist, because the graph will never intersect the
   x-axis since the line is parallel to the x-axis.
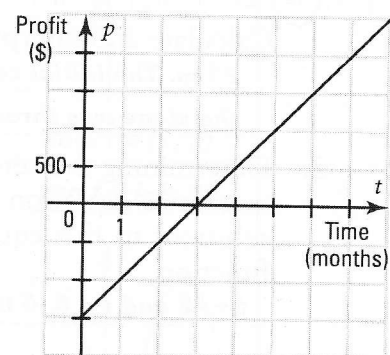
b) What is the initial value of the function? _____ **2**

11. The graph on the right represents a function f which gives the profit p made by a company as a function of time t (in months) since its opening.

a) What is the zero of this function? What does it represent?

   3; it represents the number of months since opening for the
   profit to be zero.

b) What is the initial value of this function? What does it represent?

   -1500; it represents the company's profit at its opening.

12. The graph on the right represents a function f which gives the height h reached by a diver (in m) as a function of time t (in seconds).

a) What are the zeros of this function? What do they represent?

   1 s and 4 s. They represent the time at which the diver was
   at the surface of the water.

b) What is the initial value of this function? What does it represent?

   4 m. It represents the height from which the diver jumped.