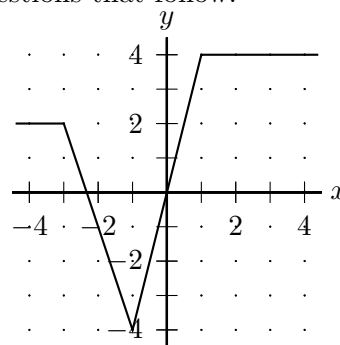


2. [7 points] Invertible functions  $f$  and  $g$  and a function  $h$  are described by the table, formula, and graph below. Use this information to answer the questions that follow.

$x$	-4	-3	-2	-1	0	1	2	3	4
$f(x)$	3	-2	1	4	-3	0	-4	2	-1

$$g(x) = \begin{cases} 4 + x & \text{if } x < 3 \\ 2^x & \text{if } x \geq 3 \end{cases}$$



Graph of  $y = h(x)$

Evaluate each of the following quantities, if possible.

If the specified quantity is undefined, write “UNDEFINED”.

*You do not have to show your work. However, any work you show may be worth partial credit.*

a. [1 point]  $f(0)h(-4)$

d. [1 point]  $g^{-1}(4)$

**Answer:** \_\_\_\_\_

**Answer:** \_\_\_\_\_

b. [1 point]  $3f(g(-2))$

e. [1 point]  $g(g(-1))$

**Answer:** \_\_\_\_\_

**Answer:** \_\_\_\_\_

c. [1 point]  $f^{-1}(h(1) - 2)$

f. [1 point]  $k(-1)$  if  $k(x) = \frac{1}{3}h(3x)$

**Answer:** \_\_\_\_\_

**Answer:** \_\_\_\_\_

g. [1 point] Find the average rate of change of  $h(x)$  between  $x = -1$  and  $x = 4$ .

**Answer:** \_\_\_\_\_