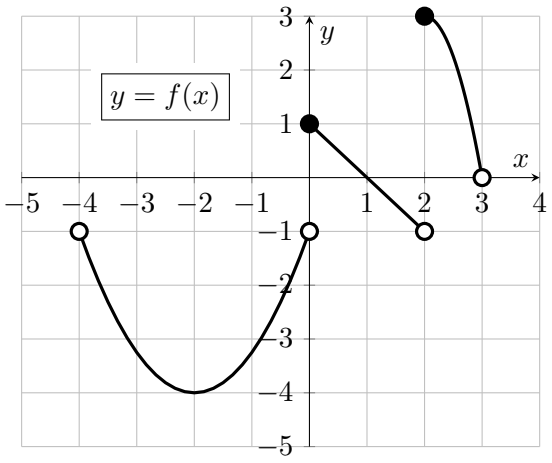
1. [9 points] The entire graph of a function $f(x)$ is shown below to the left. Also shown is a table of some values for the functions $p(x)$ and $r(x)$. Assume that the function $p(x)$ is invertible.



x	-1	0	1	2	5
$p(x)$	4	2	-1	-3	-5
$r(x)$	3	1	-4	-2	0

a. [3 points] Find the domain and range of $f(x)$. Give your answers using interval notation or using inequalities. *You do not need to explain or justify your answer.*

Answer: Domain: $(-4, 3)$

Range: $[-4, -1) \cup (-1, 3]$

b. [2 points] Calculate the average rate of change of $f(x)$ on the interval $-2 \leq x \leq 2$. *Partial credit may be awarded for work shown.*

Answer: $\dfrac{3 - -4}{2 - -2} = \dfrac{7}{4}$

c. [4 points] Find each of the following, or write N/A if a value does not exist or there is not enough information to find it.
You do not need to show work.

(i) $p^{-1}(2)$ **Answer:** $p^{-1}(2) =$ 0

(ii) $f(p(0))$ **Answer:** $f(p(0)) =$ 3

(iii) $f(r(1))$ **Answer:** $f(r(1)) =$ **N/A**

(iv) If $g(x) = f(x - 2) + 3$, find $g(0)$. **Answer:** $g(0) =$ -1