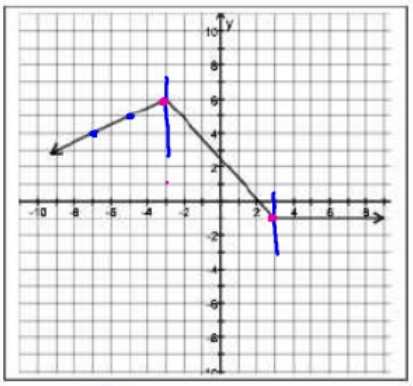
Write the rule that defines the function in the following graph

2.



$(-5,5)$ $m = \frac{1}{2}$

$y = \frac{1}{2}x + b$

$5 = \frac{10}{2}$ $5 = \frac{1}{2}(-5) + b$

$5 = -\frac{5}{2} + b$

$\frac{10}{2} = -\frac{5}{2} + b$

$b = \frac{15}{2}$

$-1 = -\frac{2}{2}$

$+\frac{7}{2}$

$\frac{5}{2}$

$x \le -3$ $\quad -3 < x < 3$

$y = \frac{1}{2}x + \frac{15}{2}$ $\quad y = -\frac{7}{6}x + \frac{5}{2}$

$x \ge 3$

$y = -1$

$m = \frac{-7}{6}$ $\quad (3,-1)$

$y = -\frac{7}{6}x + b$

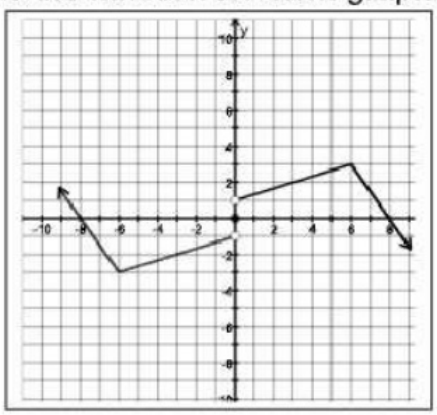
$-1 = -\frac{7}{6}(3) + b$

$-1 = \frac{-7}{2} + b$

$$f(x) = \begin{cases} \frac{1}{2}x + \frac{15}{2} & x \le -3 \\ -\frac{7}{6}x + \frac{5}{2} & -3 < x < 3 \\ -1 & x \ge 3 \end{cases}$$

Write the function for each graph.

1.



$x \le -6$ $\quad -6 < x < 0$

$x = 0$ $\quad 0 < x < 6$

$x \ge 6$