PRECALC AB PERIOD: _____ NAME:_____

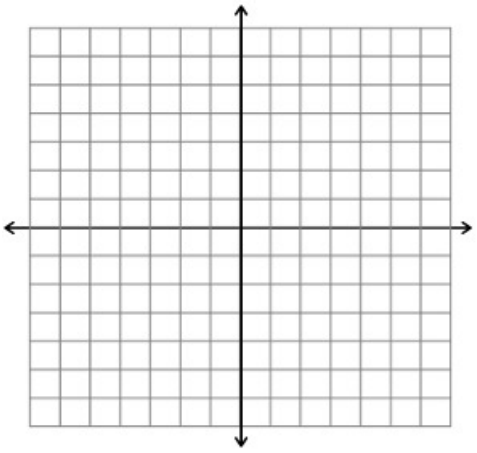
Worksheet 52 - Piecewise Functions

1. Consider

$$f(x) = \begin{cases} 2+x & \text{if } x < -4 \\ -x & \text{if } -4 \leq x \leq 2 \\ 3 & \text{if } x > 2 \end{cases}$$

(a) Find $f(-5)$, $f(2)$, and $f(\pi)$

(b) Sketch the graph

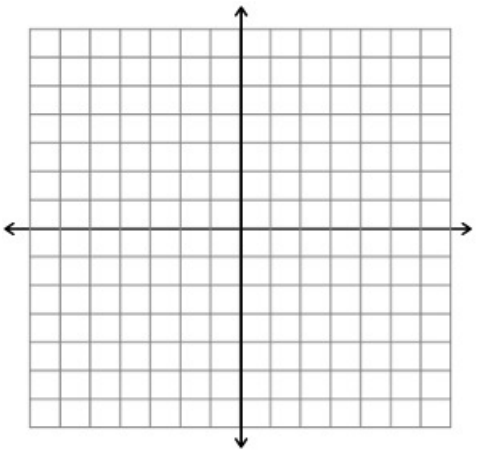


2. Consider

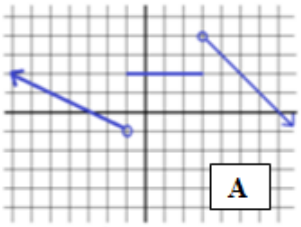
$$f(x) = \begin{cases} 2x & \text{if } x \leq -1 \\ -2 & \text{if } -1 < x \leq 2 \\ (x-3)^2 & \text{if } x > 2 \end{cases}$$

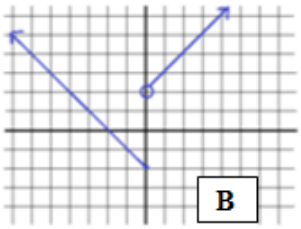
(a) Find $f(-3)$, $f(0)$, and $f(3)$

(b) Sketch the graph



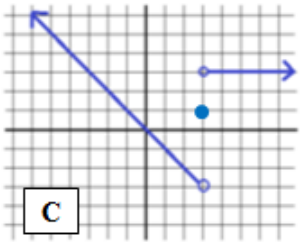
3. Write a formula for a piecewise-defined function f for each graph shown. Give the domain and range.

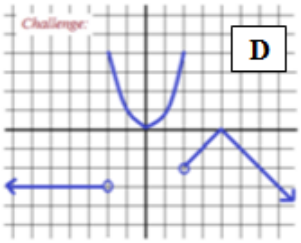




A. $f(x) = \begin{cases} \\ \\ \\ \end{cases}$

Domain:





Range:

B. $f(x) = \begin{cases} \\ \\ \\ \end{cases}$

Domain: Range:

C. $f(x) = \begin{cases} \\ \\ \\ \end{cases}$

Domain: Range:

D. $f(x) = \begin{cases} \\ \\ \\ \end{cases}$

Domain: Range: