

1

Given the function below, find $f(-2)$.

$$f(x) = \begin{cases} 4|x-3| & \text{if } x < -1 \\ \end{cases}$$

- A) 5
- B) -8
- C) -20
- D) 0
- E) 20

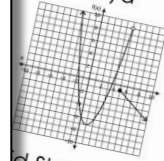
4

Which graph represents $f(x)$ defined to the right?

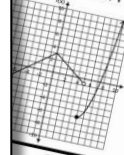
$$f(x) = \begin{cases} x^2 - 2x - 8 & \text{if } x \leq 5 \\ -\frac{3}{4}|x| + 2 & \text{if } x > 5 \end{cases}$$

A) Patrick Mel

B) Zendaya



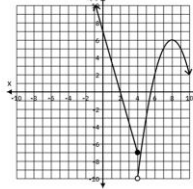
C) Ed Sheeran



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7

Which function represents the graph to the right?



A) skateboard

B) stage platform

$$f(x) = \begin{cases} -\frac{7}{2}x + 7 & \text{if } x \leq 4 \\ (x+8)^2 + 6 & \text{if } x > 4 \end{cases}$$

$$f(x) = \begin{cases} -\frac{7}{2}x + 7 & \text{if } x \leq 4 \\ -(x+8)^2 + 6 & \text{if } x > 4 \end{cases}$$

C) sidewalk

D) unicycle

$$f(x) = \begin{cases} -\frac{7}{2}x + 7 & \text{if } x \leq 4 \\ -(x-8)^2 + 6 & \text{if } x > 4 \end{cases}$$

$$f(x) = \begin{cases} \frac{7}{2}x + 7 & \text{if } x \leq 4 \\ -(x-8)^2 + 6 & \text{if } x > 4 \end{cases}$$

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PIECEWISE FUNCTIONS

(Linear, Quadratic, Abs. Value)

MATH LIB ACTIVITY



PIECEWISE FUNCTIONS

"Math Lib" Activity!

Objective: To practice evaluating piecewise functions, graphing piecewise function, writing a piecewise function given a graph, and identifying the domain and range of a piecewise function. **This activity includes linear, quadratic, and absolute value functions.** Students will generate a funny story as they move through the stations.

Activity Directions: Print and post the ten stations around the room. Give each student the worksheet to record their work as they travel to the stations. Group students (I typically do groups of 3) and assign to a starting problem. Set the timer for 2-3 minutes (more if needed). Students solve the problem at the station, recording their work on their recording worksheet. They look for their answer and record the piece to the story on the math lib. When the timer goes off, they move to the next station.

You can edit each slide to change the teacher names and all story elements to personalize for your students. PowerPoint is required to edit the slides. They enjoy seeing which one of their teachers is the "star" of the story!

Station 1: Given the function below, find $f(-2)$.

$$f(x) = \begin{cases} 4|x-3| & \text{if } x \leq -1 \\ -x^2 - 4 & \text{if } x > -1 \end{cases}$$

A) 5
B) -8
C) -20
D) 0

Station 4: Which graph represents $f(x)$ defined to the right?

$$f(x) = \begin{cases} x^2 - 2x - 8 & \text{if } x \leq 5 \\ -\frac{3}{4}|x| + 2 & \text{if } x > 5 \end{cases}$$

A) Patrick Mahomes
B) Zendaya
C) Mr. [Name]
D) Ed Sheeran

Station 7: Which function represents the graph to the right?

A) skateboard
B) stage platform
C) sidewalk
D) unicycle

Math Lib Template:

:: WRITE YOUR MATH LIB BELOW! ::

(1) _____ was (2) _____
to let (3) _____ with
(4) _____ on (5) _____
in a (6) _____ in (7) _____ while

10 Stations & Student Worksheet
(All story elements are editable!)