

# Algebra 1B - Chapter 4

Sept/Oct. 2024

# Algebra Keystone Standard for the Weeks Oct 7-18

## MODULE 2—Linear Functions and Data Organizations

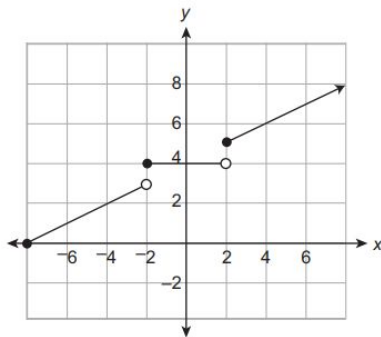
### ASSESSMENT ANCHOR

#### A1.2.1 Functions

Anchor Descriptor	Eligible Content	PA Core Standards
<b>A1.2.1.1</b> Analyze and/or use patterns or relations.	<b>A1.2.1.1.1</b> Analyze a set of data for the existence of a pattern and represent the pattern algebraically and/or graphically.	CC.2.2.8.C.1 CC.2.2.8.C.2 CC.2.2.HS.C.1 CC.2.2.HS.C.2
	<b>A1.2.1.1.2</b> Determine whether a relation is a function, given a set of points or a graph.	CC.2.2.HS.C.3 CC.2.4.HS.B.2
	<b>A1.2.1.1.3</b> Identify the domain or range of a relation (may be presented as ordered pairs, a graph, or a table).	

Standard A1.2.1.1.3

The graph of a function is shown below.



Which value is **not** in the range of the function?

- A. 0
- B. 3

<https://wbte.drctdirect.com/PA/portals/pa>

Online Tool Tutorial --- Keystone Math try

# Week Oct 14-18 on lesson overview --ALGEBRA 1B

**Monday** - No classes as teacher inservice

**Tuesday** - Use Dynamic Classroom example

1 self assessments #1,2 on piecewise function evaluations.

2 self assessments #4-7 on piecewise function evaluations

Assign for homework book pg 232 # 1-4

**Wednesday** - Put answers from homework into Dynamic Classroom online Practice to check as warmup. Then continue with online practice # 10 describing error on graph, and # 11-14 writing the equations of the piecewise functions. Finish for homework.

**Thursday** - Use Review handout of the chapter 4 objectives based on pgs 238 Practice Test # 1-8, 10, 12: Complete if needed for homework as preparing for exam on Monday.

**Friday** - Check and review practice test. Assign online work in dynamic classroom based on handout to complete.

# Tuesday Oct 15

Review DOMAIN and RANGE terms.

FUNCTIONS notation

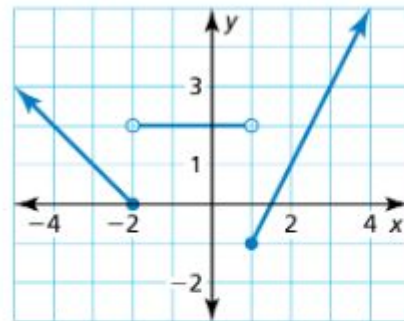
Evaluate the function when  $x = -8, -2, 0, \frac{7}{2}$ , and  $5$ .

$$f(x) = \begin{cases} 3, & \text{if } x < -2 \\ x + 2, & \text{if } -2 \leq x \leq 5 \\ 4x, & \text{if } x > 5 \end{cases}$$

$$h(-8) = \square$$

$$h(-2) = \square$$

Write a piecewise function for the graph.



$$f(x) = \begin{cases} \square, & \text{if } x \leq \square \\ \square, & \text{if } -2 < x < 1 \\ \square, & \text{if } x \geq \square \end{cases}$$

# Thurs/Fri: Practice Test Questions

1. Graph  $y = \begin{cases} 2x + 4, & \text{if } x \leq -1 \\ \frac{1}{3}x - 1, & \text{if } x > -1 \end{cases}$ . Find the domain and range.

Write an equation in slope-intercept form of the line with the given characteristics.

2. slope =  $\frac{2}{3}$ ; y-intercept =  $-7$
3. passes through  $(0, 6)$  and  $(3, -3)$
4. parallel to the line  $y = 3x - 1$ ; passes through  $(-2, -8)$
5. perpendicular to the line  $y = \frac{1}{4}x - 9$ ; passes through  $(1, 1)$

Write an equation in point-slope form of the line with the given characteristics.

6. slope =  $10$ ; passes through  $(6, 2)$
7. passes through  $(-3, 2)$  and  $(6, -1)$
8. Write a linear function  $f$  with the values  $f(0) = 6$  and  $f(7) = 27$ .

10. The first row of an auditorium has 42 seats. Each row after the first has three more seats than the row before it.

- a. Find the number of seats in Row 25.
- b. Which row has 90 seats?

12. The table shows the amounts  $x$  (in dollars) spent on advertising for a festival and the attendances  $y$  of the festival for several years.

- a. Find an equation of the line of best fit. Interpret the slope and y-intercept.
- b. What would you expect a scatter plot of the residuals to look like? Explain your reasoning.
- c. Is there a causal relationship in the data? Explain.
- d. Predict the attendance when the advertising cost is \$8900.

Advertising (dollars), $x$	Yearly attendance, $y$
500	400
1000	550
1500	550
2000	800
2500	650
3000	800
3500	1050
4000	1100