

ALGEBRA 1 SEMESTER 1 INSTRUCTIONAL MATERIALS

HS Courses: #2201 Algebra 1 SI and #7769 Foundations in Algebra 1 SI
MS Courses: #218 Algebra 1, #217A VMS ALG 1 SI, and #776 ACCEL Algebra 1

2021-2022

19. Given the graph and the equation, which statement about the slopes is correct?

Line A	Line B
	$3x - y = 12$ $\begin{array}{r} -3x \\ \hline -y = -3x + 12 \\ \hline -1y = \frac{-3x + 12}{-1} \\ y = 3x - 12 \end{array}$ <p style="text-align: center;">↑ slope</p>

- A. Line A has a larger value for slope
 B. Line B has a larger value for slope
 C. Line A and Line B have the same slope
 D. Cannot be determined

20. A linear function passes through the points $(10, 5)$ and $(-15, -5)$. A second function is represented by the equation $4x - 3y = 6$. What is the y-intercept of the function with the greater rate of change?

- A. -20
 B. $\frac{3}{2}$
 C. -2
 D. 1

Slope $\frac{-4x}{-3} = \frac{4x}{3}$

$$\begin{array}{r} -3y = -4x + 6 \\ \hline -3y = -4x + 6 \\ \hline y = \frac{4}{3}x - 2 \end{array}$$

$y = \frac{4}{3}x - 2$
 greater than $\frac{2}{5}$
 y-int

Slope = $\frac{y_2 - y_1}{x_2 - x_1}$
 $= \frac{-5 - 5}{-15 - 10}$
 $= \frac{-10}{-25} = \frac{2}{5}$

Released 7/30/21

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2021-2022

F, H, J, K

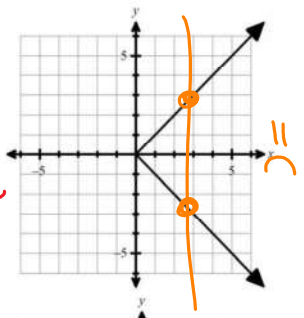
23. Determine which tables and graphs represent functions. Select all that apply.

$x \rightarrow y$

F.

domain	range
2	5
3	5
4	5
5	5

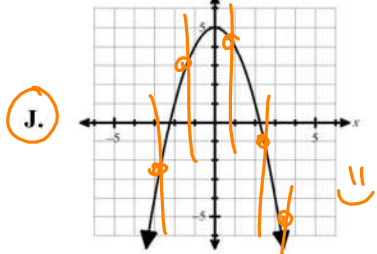
$x \rightarrow y$
for every x , there is a unique y .



Vertical line test

~~**G.**~~

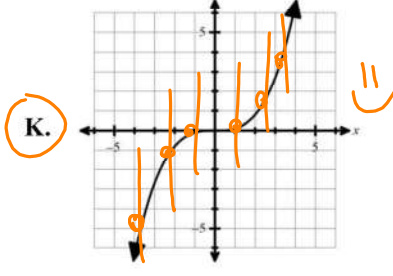
domain	range
2	4
3	6
3	8
5	10



$x \rightarrow y$

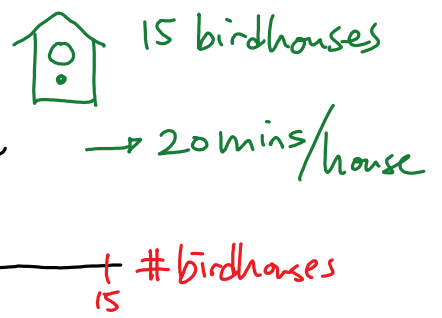
H.

domain	range
1	1
2	2
3	3
4	4



B 24. Kaj needs to build 15 birdhouses for a class project. It takes 20 minutes to build each birdhouse. The number of minutes it takes Kaj to build birdhouses is a function of the number of birdhouses she builds. Which statement correctly describes the domain or range of this function?

- A. The domain is the set of all real numbers. *!! (fractions/decimal)*
- B.** The domain is the set of all integers from 0 to 15.
- C. The range is the set of all real numbers. *!!*
- D. The range is the set of all ~~integers 0 to 300~~. *step function*



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A 25. If $h(x) = -\frac{1}{2}x + 3$, find the value of $h(-29)$. *function notation*

A. $\frac{35}{2}$

C. 64

B. $\frac{32}{3}$

D. $\frac{29}{2}x - 87$

$h(-29) = -\frac{1}{2}(-29) + 3$

$= \frac{29}{2} + 3$

Scientific Calc



-45 *x* ?

26. The point $(-12, n)$ is an ordered pair of the function $f(x) = 3x - 9$. What is the value of n ? Bubble your answer in the grid below.

-	4	5				
+	-	-	-	-	-	-
•	7	7	7	7	7	7
0	0	0	0	0	0	0
1	1	1	1	1	1	1
2	2	2	2	2	2	2
3	3	3	3	3	3	3
•	4	4	4	4	4	4
5	•	5	5	5	5	5
6	6	6	6	6	6	6
7	7	7	7	7	7	7
8	8	8	8	8	8	8
9	9	9	9	9	9	9

$f(-12) = 3(-12) - 9$

$= -36 - 9$

$f(-12) = -45$

D 27. A cell phone company charges a monthly fee of \$45 for a single phone line and \$15 for every gigabyte (GB) of data used per month. Which function models the total monthly cost of the cell phone line? *static*

A. $f(x) = 30x$

C. $f(x) = 15 + 45x$

B. $f(x) = 60x$

D. $f(x) = 45 + 15x$

$45 + 15x$

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Algebra 1 Semester 1 Instructional Materials 2021-22 Answers								
Topic 1 Solving Equations & Inequalities			Topic 2 Linear Equations			Topic 3 Linear Functions		
#	Ans	Standard	#	Ans	Standard	#	Ans	Standard
1.	F, H, I	HSA.REI.A.1	10.	A	HSF.IF.C.7a	23.	F, H, J, K	HSF.IF.A.1
2.	A	HSA.CED.A.1	11.	C	HSF.IF.C.7a	24.	B	HSF.IF.B.5
3.	D	HSA.REI.A.1	12.	B	HSA.CED.A.2 HSF.IF.C.7a	25.	A	HSF.IF.A.2
4.	-2.0	HSA.REI.B.3	13.	C	HSF.IF.C.7a	26.	-45	HSF.IF.A.2 HAS.IF.A.1
5.	D	HSA.REI.B.3	14.	F, H	HSS.ID.C.7	27.	D	HSF.LE.A.2
6.	A	HSA.CED.A.4	15.	D	HSA.CED.A.2 HSF.LE.A.2	28.	A	HSA.CED.A.2 HSF.LE.A.2 HSS.ID.C.7
7.	C	HSA.REI.B.3	16.	G, I, J	HSA.CED.A.2	29.	D	HSF.IF.A.2 HSF.IF.B.5
8.	D	HSA.CED.A.1 HSA.CED.A.3	17.	D	HSS.ID.C.7	30.	D	HSS.ID.C.7 HSS.ID.B.6
9.	C	HSA.REI.B.3	18.	C	HSA.CED.A.1	31.	C	HSS.ID.B.6.A HSS.ID.B.6.C
			19.	A	HSS.ID.C.7	32.	A	HSF.IF.A.1 HSF.LE.A.2
			20.	C	HSS.ID.C.7	33.	H, J, K, L	HSF.BF.A.1 HSF.BF.A.2
			21.	$\frac{8}{5}$	HSA.CED.A.2 HSG.GPE.B.5			
			22.	A	HSA.CED.A.2 HSG.GPE.B.5			

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Algebra 1 Semester 1 Instructional Materials 2021-22 Answers					
Topic 4 Systems of Equations & Inequalities			Topic 5 Absolute Value Functions		
#	Ans	Standard	#	Ans	Standard
34.	B	HSA.REI.C.6	48.	A	HSA.CED.A.1
35.	G, I	HSA.REI.C.6	49.	B	HSA.CED.A.1
36.	A	HSA.REI.C.6 HSA.CED.A.2	50.	G, J	HSF.IF.B.4
37.	A	HSA.REI.C.6	51.	A	HSF.IF.C.7a
38.	D	HSA.REI.C.6 HSA.CED.A.2	52.	A	HSF.IF.C.7b
39.	B	HSA.REI.C.5 HSA.REI.C.6	53.	B	HSF.IF.C.7b
40.	C	HSA.REI.C.5 HSA.REI.C.6	54.	B	HSF.IF.B.4 HSF.IF.B.6
41.	D	HSA.CED.A.2	55.	C	HSF.IF.B.4
42.	2.50	HSA.REI.C.5 HSA.REI.C.6 HSA.CED.A.2 HSA.CED.A.3	56.	D	HSF.IF.C.7.b
43.	B	HSA.REI.D.12 HSA.CED.A.3	57.	C	HSF.BF.B.3
44.	C	HSA.REI.D.12 HSA.CED.A.3	58.	G, I	HSF.IF.C.7.b
45.	C	HSA.REI.D.12 HSA.CED.A.3	59.	B	HSF.BF.B.3
46.	D	HSA.REI.D.12 HSA.CED.A.3	60.	B	HSF.IF.B.4
47.	A	HSA.REI.D.12 HSA.CED.A.3	61.	D	HSF.BF.B.3

Released 7/30/21