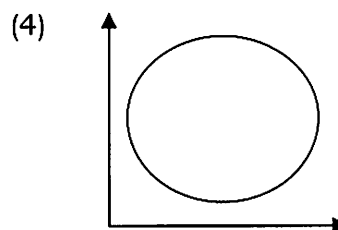
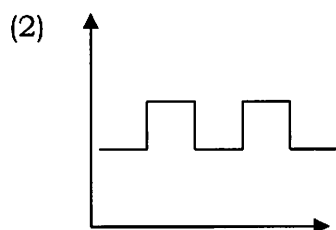
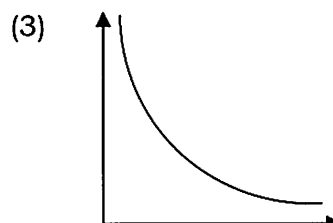
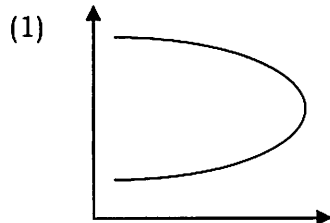


_____ 1. Which graph represents a function?



_____ 2. Determine the range for the given domain $D: \{-3, 0, 2, 7\}$ in $f(x) = x^2 - 5$

(1) $\{-14, -5, 1, 49\}$

(2) $\{-5, -1, 2, 4\}$

(3) $\{-14, -1, 5, 44\}$

(4) $\{-5, -1, 4, 44\}$

Practice:

3. For $f(x) = 3x^2 + 6$, determine $f(-5)$, $f(-3)$, and $f(1)$

5. Determine the range for the given domain $D: \{-3, 0, 2, 7\}$ in $f(x) = |x^2 - 5|$

_____ 3. Find the rate of change for the given table.

x	1	2	3	4
y	3	6	9	12

(1) 3

(2) -3

(3) 12

(4) $\frac{1}{3}$

_____ 4. The relation defined by the set of ordered pairs $\{(0,2),(-2,2),(1,4),(4,1),(0,-1)\}$ is *not* a function.

Which of the ordered pairs listed below, if removed from this relation, will make the resulting set a function?

(1) (-2, -2)

(2) (1, 4)

(3) (4, 1)

(4) (0, -1)

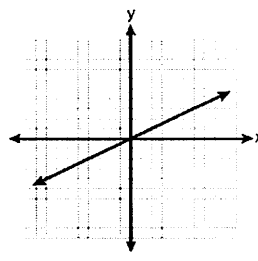
5. Matching: Write the number of the graph that corresponds with the type of function.

___ Exponential

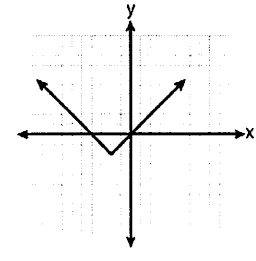
___ Quadratic

___ Linear

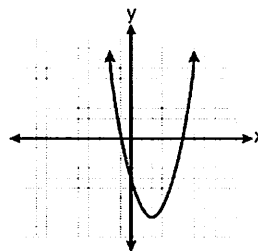
___ Absolute Value



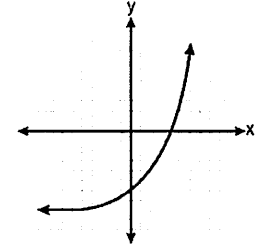
(1)



(3)



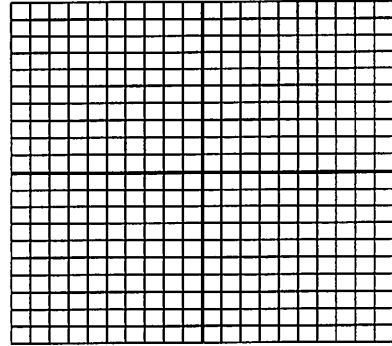
(2)



(4)

6. Determine whether or not the set of coordinates is a function and justify your response by using the graph or drawing a mapping diagram

$\{(-3, -6), (-1, 2), (5, 4), (8, -6)\}$



7. Write a function rule that expresses the relationship between x and y , as shown in the accompanying table?

x	y
2	5
4	11
6	17
8	23
10	29

Practice:

x	y
3	4
5	12
7	20
9	28
11	36

x	y
5	1
10	6
15	11
20	16
35	31

x	y
3	-3
8	-13
9	-15
11	-19
15	-27

x	y
-10	-44
-4	-14
-2	-4
-1	1
10	56

x	y
3	0
6	1
9	2
12	3
15	4

x	y
-7	-28
-4	-16
0	0
2	8
9	36

8.

x	y
2	4
3	6
4	8
5	10

a) Does the above table represent a linear function relationship? _____

b) Explain how you chose your answer to part (a). _____

9. Crystal earns \$5.50 per hour mowing lawns.

a) Write a rule to describe how the amount of money m earned is a function of the number of hours h spent mowing lawns.

b) How much does Crystal earn if she works 3 hours and 30 minutes?

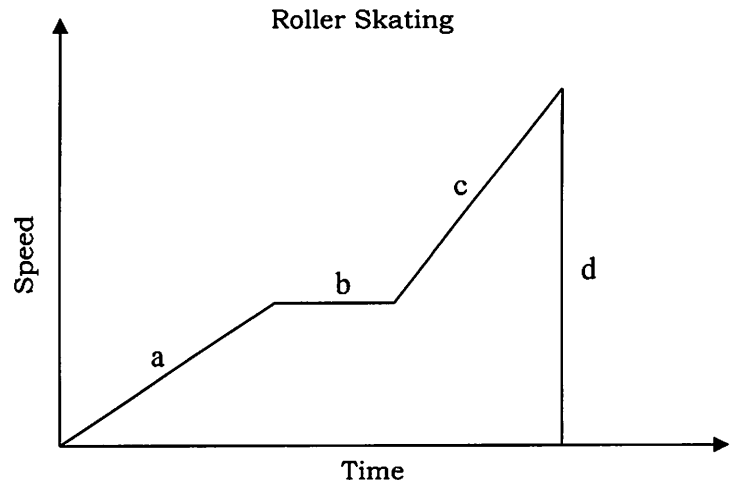
c) Does the function rule model discrete or continuous data? _____

d) Explain how you choose your answer to part c). _____

10.

Which section of the graph shows no change in speed?

Which section of the graph shows the person stopping?



[2] 12. Sketch a graph of Dylan's distance from home. Label each section.

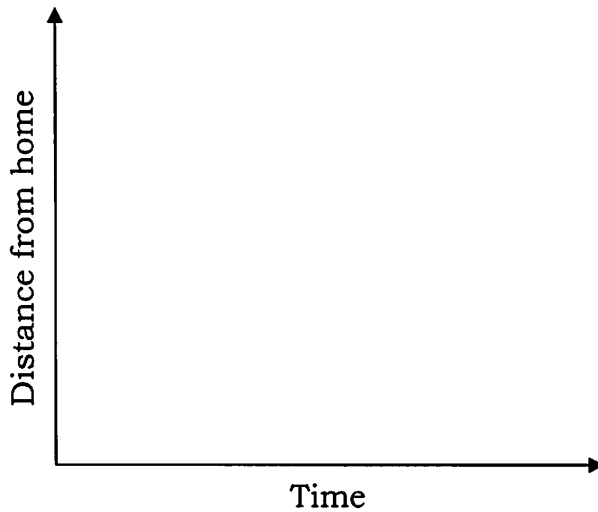
[8.A.04] [A.R.1] [A.CM.2]

A – Dylan walks to his bus stop.

B – Dylan rides the bus to school.

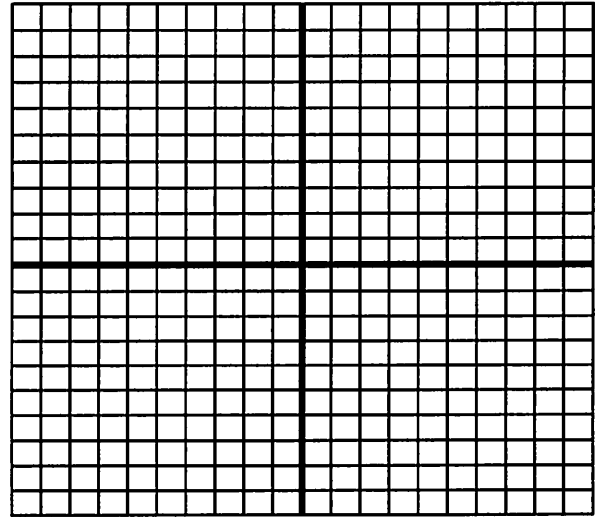
C – Dylan spends most of his day at school.

D – Dylan's Dad picks him up from school and drives him home.



11. a) Model the function $y = x^2 - 4$ with a table of values and graph for the domain: $-3 \leq x \leq 3$

x		y
-3		
-2		
-1		
0		
1		
2		
3		

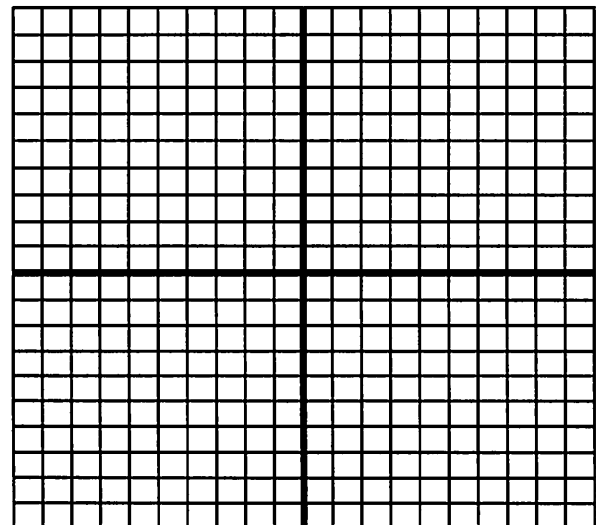


b) State the range of the function for the given domain.

Practice:

Model the function $y = -3x - 4$ with a table of values and graph for the domain: $-4 \leq x \leq 2$

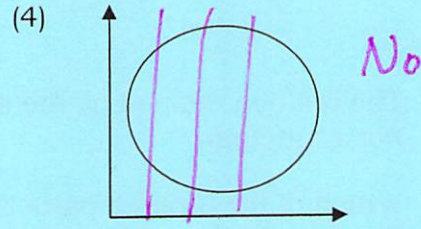
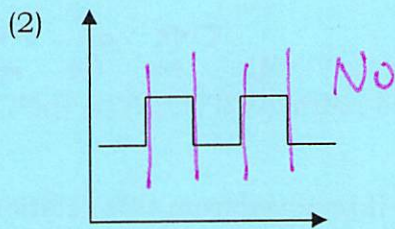
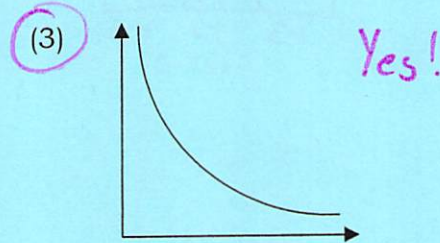
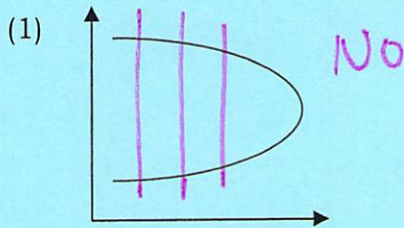
x		y
-4		
-3		
-2		
-1		
0		
1		
2		



b) State the range of the function for the given domain.

3

1. Which graph represents a function?

42. Determine the range for the given domain $D: \{-3, 0, 2, 7\}$ in $f(x) = x^2 - 5$

(1) $\{-14, -5, 1, 49\}$

$f(-3) = -3^2 - 5$

$f(2) = 2^2 - 5$

(2) $\{-5, -1, 2, 4\}$

4

-1

(3) $\{-14, -1, 5, 44\}$

$f(0) = 0^2 - 5$

$f(7) = 7^2 - 5$

(4) $\{-5, -1, 4, 44\}$

-5

44

Practice:3. For $f(x) = 3x^2 + 6$, determine $f(-5)$, $f(-3)$, and $f(1)$

$f(-5) = 3(-5)^2 + 6$

$f(-3) = 3(-3)^2 + 6$

$f(1) = 3(1)^2 + 6$

$3(25) + 6$

$= 3(9) + 6$

$= 3(1) + 6$

$75 + 6$

$27 + 6$

$3 + 6$

813395. Determine the range for the given domain $D: \{-3, 0, 2, 7\}$ in $f(x) = |x^2 - 5|$

$f(-3) = |(-3)^2 - 5|$

$f(2) = |2^2 - 5|$

$f(-3) = 4$

$f(2) = 1$

$f(0) = |0^2 - 5|$

$f(7) = |7^2 - 5|$

$f(0) = 5$

$f(7) = 44$

Range: $\{1, 4, 5, 44\}$

1

3. Find the rate of change for the given table.

x	1	2	3	4
y	3	6	9	12

$$\frac{\Delta y}{\Delta x} = \frac{3}{1} = 3$$

(1) 3

(2) -3

(3) 12

(4) $\frac{1}{3}$

4

4. The relation defined by the set of ordered pairs $\{(0,2),(-2,2),(1,4),(4,1),(0,-1)\}$ is not a function.

One of these needs to be removed

Which of the ordered pairs listed below, if removed from this relation, will make the resulting set a function?

(1) (-2, -2)

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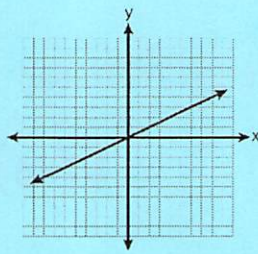
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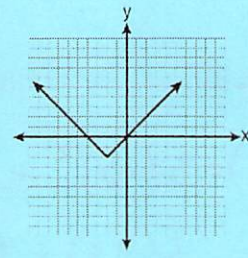
2 Quadratic

1 Linear

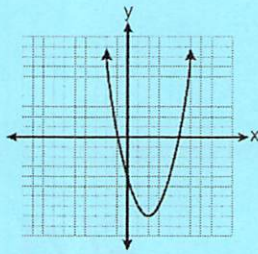
3 Absolute Value



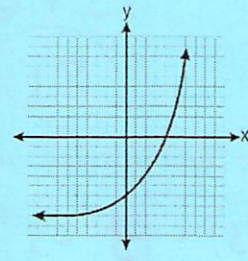
(1)



(3)



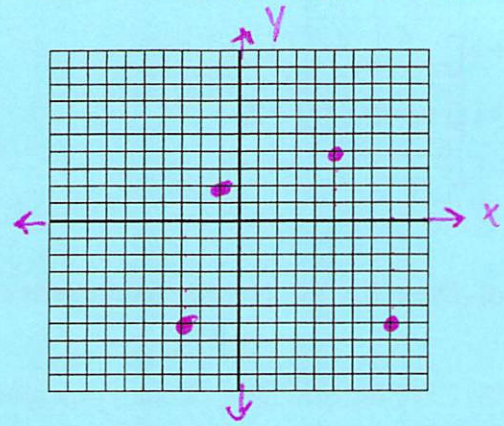
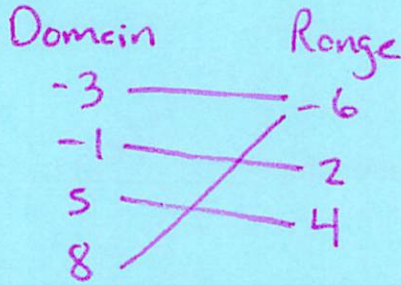
(2)



(4)

6. Determine whether or not the set of coordinates is a function and justify your response by using the graph or drawing a mapping diagram

$\{(-3, -6), (-1, 2), (5, 4), (8, -6)\}$



Yes, Function \rightarrow ① Each input has exactly 1 output
 ② Passes Vertical Line Test

7. Write a function rule that expresses the relationship between x and y , as shown in the accompanying table?

x	y
2	5
4	11
6	17
8	23
10	29

~~3x + 1 = y~~
 $3x - 1 = y$

Practice:

x	y
3	4
5	12
7	20
9	28
11	36

$4x - 8 = y$

x	y
5	1
10	6
15	11
20	16
35	31

$x - 4 = y$

x	y
3	-3
8	-13
9	-15
11	-19
15	-27

$-2x + 3 = y$

x	y
-10	-44
-4	-14
-2	-4
-1	1
10	56

$5x + 6 = y$

x	y
3	0
6	1
9	2
12	3
15	4

$\frac{1}{3}x - 1 = y$

x	y
-7	-28
-4	-16
0	0
2	8
9	36

$x \cdot 4 = y$

8.

x	y
2	4
3	6
4	8
5	10

Handwritten annotations: Brackets on the left indicate a change of +1 in x for each row. Brackets on the right indicate a change of +2 in y for each row.

a) Does the above table represent a linear function relationship? Yes

b) Explain how you chose your answer to part (a).

This table represents a function because each input has exactly 1 output and represents a linear function because there is a constant rate of change equal to 2.

9. Crystal earns \$5.50 per hour mowing lawns.

a) Write a rule to describe how the amount of money m earned is a function of the number of hours h spent mowing lawns.

$$m = 5.50 \cdot h$$

b) How much does Crystal earn if she works 3 hours and 30 minutes?

$$m = 5.50 \cdot 3.5$$

$$m = \$19.25$$

c) Does the function rule model discrete or continuous data? Continuousd) Explain how you choose your answer to part c). Time is continuous.

and we can infer Crystal will be paid for any value of h including decimals.

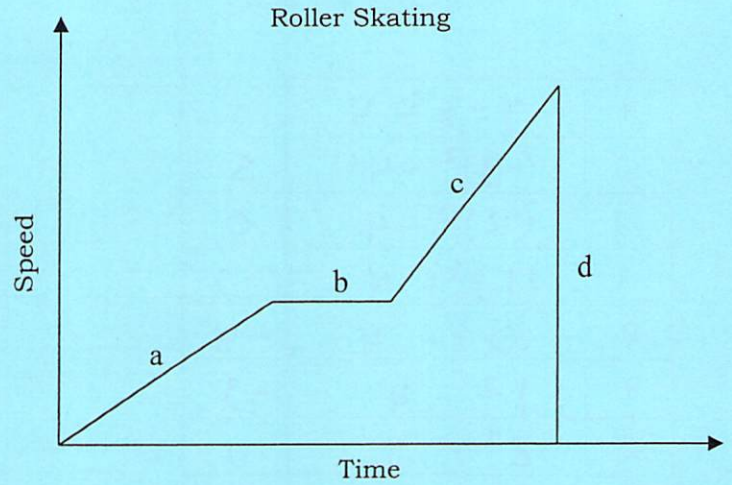
10.

Which section of the graph shows no change in speed?

b

Which section of the graph shows the person stopping?

d



[2] 12. Sketch a graph of Dylan's distance from home. Label each section.

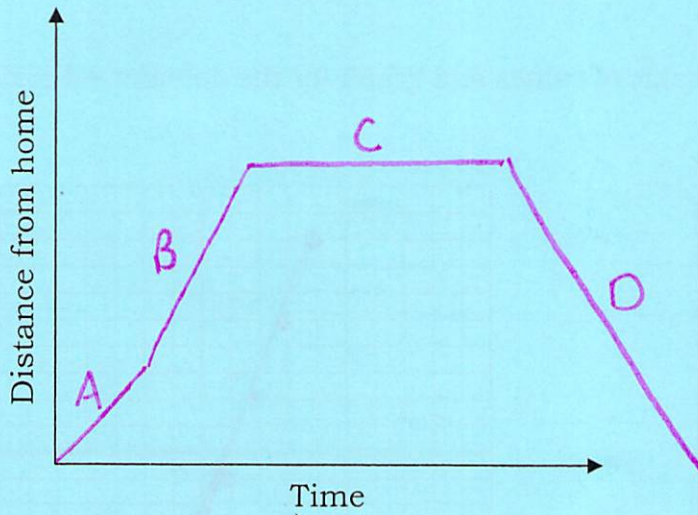
[8.A.04] [A.R.1] [A.CM.2]

A - Dylan walks to his bus stop.

B - Dylan rides the bus to school.

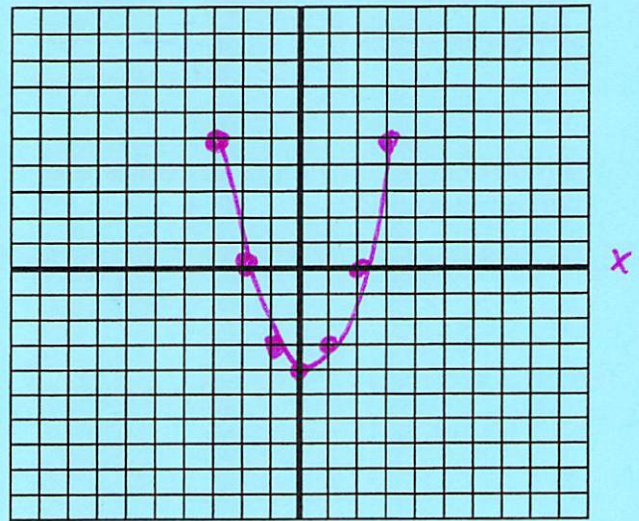
C - Dylan spends most of his day at school.

D - Dylan's Dad picks him up from school and drives him home.



11. a) Model the function $y = x^2 - 4$ with a table of values and graph for the domain: $-3 \leq x \leq 3$

x	$y = x^2 - 4$	y
-3	$(-3)^2 - 4$	5
-2	$(-2)^2 - 4$	0
-1	$(-1)^2 - 4$	-3
0	$0^2 - 4$	-4
1	$1^2 - 4$	-3
2	$2^2 - 4$	0
3	$3^2 - 4$	5



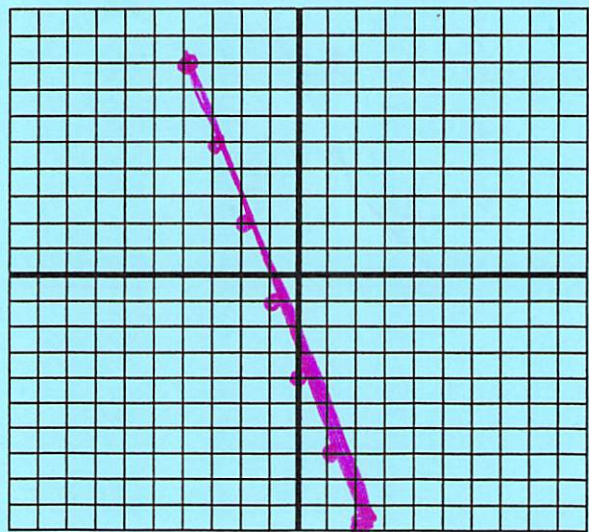
b) State the range of the function for the given domain.

Between and including -4 and 5

Practice:

Model the function $y = -3x - 4$ with a table of values and graph for the domain: $-4 \leq x \leq 2$

x	$y = -3x - 4$	y
-4	$-3(-4) - 4$	8
-3	$-3(-3) - 4$	5
-2	$-3(-2) - 4$	2
-1	$-3(-1) - 4$	-1
0	$-3(0) - 4$	-4
1	$-3(1) - 4$	-7
2	$-3(2) - 4$	-10



b) State the range of the function for the given domain.

$-10 \leq y \leq 8$