Moore/Hinds

Name: Key-Moore

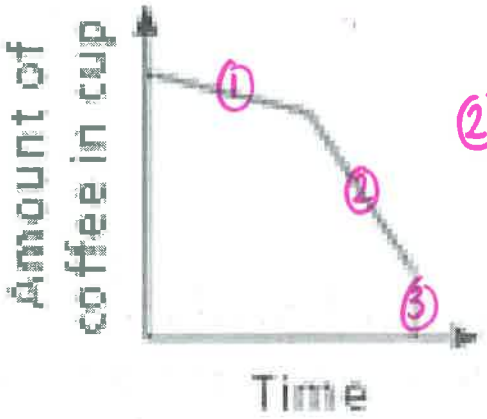
Algebra 1

Chapter 4 Review

:tion 3.1

Write a graph story to go along with the graph.

1. Ian bought a cup of coffee.



① Ian started drinking slowly bc the coffee was hot

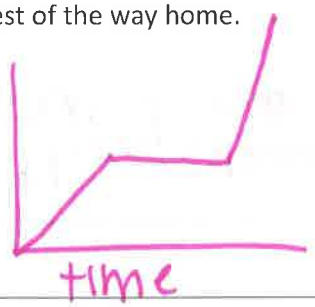
② The coffee cooled down, so Ian drank more quickly.

③ The last bit was cold, so he dumped it out.

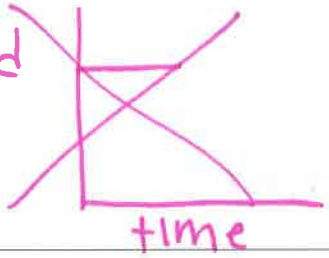
Sketch a graph for the given situation.

2. Jenna was talking home at a steady pace. Then she stopped to talk to a fiend. After her friend left, she logged the rest of the way home.

dist walked



speed

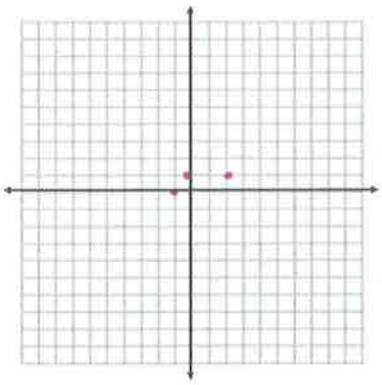


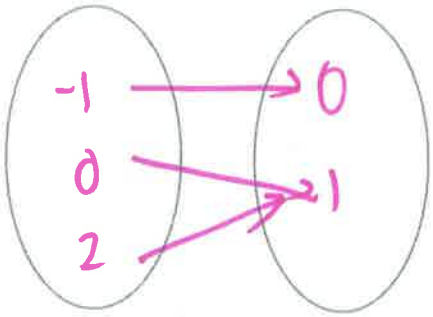
Section 3.2

Express the relation as a table, as a graph, and as a mapping diagram.

3. $\{(-1,0),(0,1),(2,1)\}$

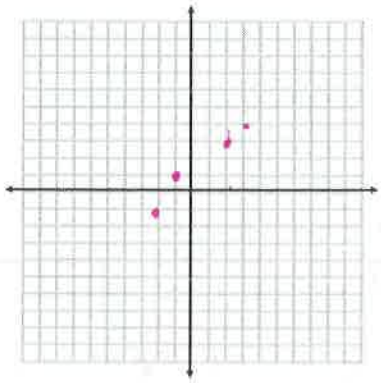
x	y
-1	0
0	1
2	1

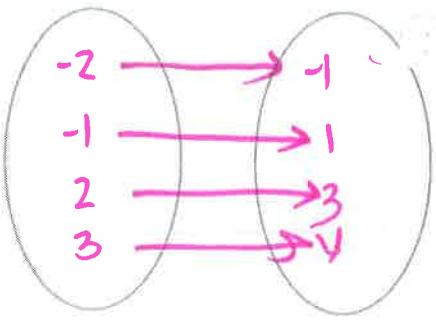




4. $\{(-2,-1),(-1,1),(2,3),(3,4)\}$

-2	-1
-1	1
2	3
3	4





Give the domain and range of each relation. Tell whether the relation is a function. EXPLAIN.

5. $\{(-4,5),(-2,3),(0,1),(2,-1)\}$

D: $\{-4,-2,0,2\}$ R: $\{-1,1,3,5\}$

yes. every input is paired with exactly one output

6. $\{(-2,-1),(-1,0),(0,-1),(1,0),(2,-1)\}$

D: $\{-2,-1,0,1,2\}$

R: $\{-1,0\}$

yes. every input is paired with exactly one output

7.

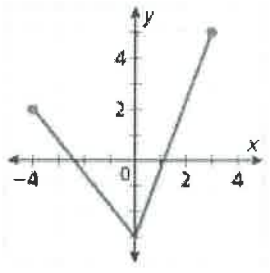
x	0	1	4	1	4
y	0	−1	−2	1	2

D: $\{0,1,4\}$

R: $\{-2,-1,0,1,2\}$

no. 4 & 1 are paired with two different outputs

8.

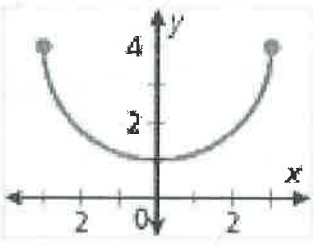


D: $\{-4 \le x \le 3\}$

R: $\{-3 \le y \le 5\}$

yes. It passes the VLT

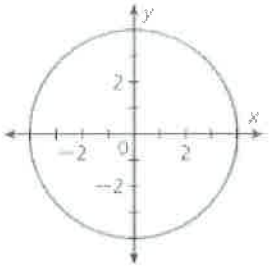
9.



D: $\{-3 \le x \le 3\}$

R: $\{1 \le y \le 4\}$

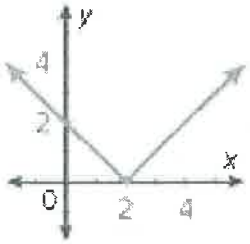
yes. It passes the VLT

10. 

D: $\{-4 \leq x \leq 4\}$

R: $\{-4 \leq y \leq 4\}$

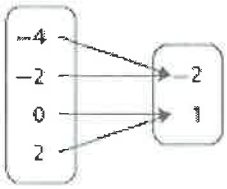
no. It fails the VLT.

11. 

D: $\{\mathbb{R}\}$

R: $\{y \geq 0\}$

yes. It passes the VLT

12. 

D: $\{-4, -2, 0, 2\}$

R: $\{-2, 1\}$

yes. Every input is paired with exactly one output.

Section 3.3

Determine a relationship between the x and y values. Write an equation.

1. **F(X) =** $-3x$

X	0	1	2	3
Y	0	-3	-6	-9

2. $y = x - 5$

X	-2	1	3	5
Y	-7	-4	-2	0

3. A math tutor charges $60 per hour. Identify the dependent and independent variables for the situation. Write an equation in function notation.

Dependent: total cost

Independent: # hours

Equation: $y = 60x$

How much would you spend if you needed 6 hours of tutoring? $360

Evaluate each function for the given input values.

3. For $f(x) = -4x + 1$, find $f(x)$ when $x = 2$

$f(2) = -4(2) + 1$
$= -8 + 1$
$= -7$

4. For $g(x) = -x^2 + 2$, find $g(x)$ when $x = -2$

$g(x) = -(-2)^2 + 2$
$= -4 + 2 = -2$

Find the range for the following domain: D = $\{-3, -2, -1, 0, 1\}$

5. $f(x) = x^2 - 6$

$f(-3) = (-3)^2 - 6 = 3$
$f(-2) = (-2)^2 - 6 = -2$
$f(-1) = (-1)^2 - 6 = -5$
$f(0) = (0)^2 - 6 = -6$
$f(1) = (1)^2 - 6 = -5$

Range: $\{-6, -5, -2, 3\}$

Write a function to describe the situation. Find a reasonable domain and range for up to 5 ~~poses~~ rides.

6. The entry fee to the amusement park is $20. Each ride costs $2.

Domain: $\{0, 1, 2, 3, 4, 5\}$

Range: $\{20, 22, 24, 26, 28, 30\}$

Equation: $y = 20 + 2x$

What would your total cost be if you went on 6 rides? $32