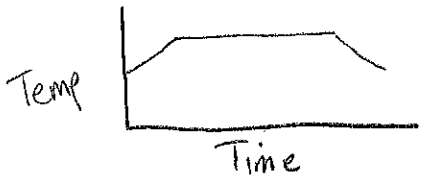
Chapter 2 Honors Practice Test

Name Key **Hour** _____ **Score**

Sketch a graph to represent the situation. Label each section.

1. The temperature changed as Kelly preheated the oven, cooked a pie, and then turned the oven off.



For each table, determine whether the relationship is a function. Then represent each function using words, an equation, and a graph.

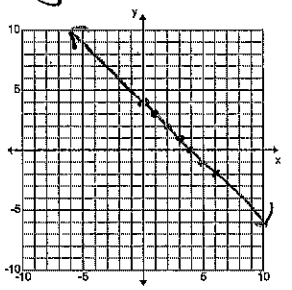
2. Function? Yes

x	y
4	0
3	1
2	2
1	3

Words As x decreases by 1 the y-value increases by 1

Equation $y = -x + 4$

Graph



Each set of ordered pairs represents a function. Write a rule that represents the function.

3. (0, 0), (-1, 3), (-2, 6), (-3, 9), (-4, 12) 3. $y = -3x$

4. (0,-4), (1.-2), (2, 0), (3, 2), (4, 4) 4. $y = 2x - 4$

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

6. (1, -2), (2, 4), (3, -8), (4, 16), (5, -32) 6. $y = (-2)^x$

Write a function rule that represents each sentence.

7. 4 more than two-fifths of a is b. 7. $\frac{2}{5}a + 4 = b$

8. 10 less than the product of a number z and -2 is z. 8. $-2z - 10 = z$

Chapter 2 Honors Practice Test cont.

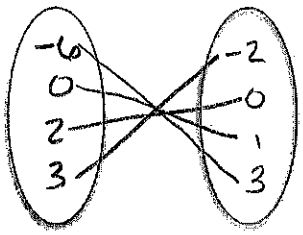
Identify the domain and the range of each relation. Using a mapping diagram to determine whether the relation is a function.

9. { (-6,3), (2,0), (0,1), (3,-2) }

Domain $\{-6, 0, 2, 3\}$

Range $\{-2, 0, 1, 3\}$

Mapping



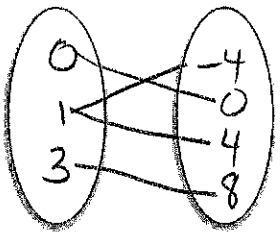
Function? Yes

10. { (1,-4), (0,0), (1,4), (3,8) }

Domain $\{0, 1, 3\}$

Range $\{-4, 0, 4, 8\}$

Mapping



Function? No

Find the range of each function for the given domain.

11. f(x) = -2x + 1; {-1,0,1,3,5}

3 1 -1 -5 -9

11. $\{-9, -5, -1, 1, 3\}$

12. f(x) = x^3 - 1; {-2,-1,0,1,2}

-9 -2 -1 0 7

12. $\{-9, -2, -1, 0, 7\}$

Tell whether each sequence is arithmetic. Justify your answer. If the sequence is arithmetic, write a recursive and an explicit formula to represent it.

13. 13, 10, 7, 4, 1, . . .

Arithmetic? Yes

$d = -3$

Recursive $a_n = a_{n-1} - 3, a_1 = 13$

Explicit $a(n) = 13 + (n-1)(-3)$

14. 7, 12, 17, 22, 27, . . .

Arithmetic? Yes

$d = 5$

Recursive $a_n = a_{n-1} + 5, a_1 = 7$

Explicit $a(n) = 7 + (n-1)(5)$

Find each function value.

15. What is f(-5) for the function f(x) = -4x -3?

15. $f(-5) = 17$

16. If f(x) = 3x – 1 and g(x) = x^2 – 2, find f(-2) + g(3).

-7 7

16. 0

17. If f(x) = x – 10, find f(a+b).

17. $a+b-10$

18. If f(n) = -2x + 31 and f(n) = 21, what is the value of n?

18. $n = 5$

$-2n + 31 = 21$

$-2n = -10$

$n = 5$