4.2 Sorting Out the Change
A Solidify Understanding Task

A. Identify the pattern of change in each of the relations and sort each relation into the following categories:
   - Equal differences over equal intervals
   - Equal factors over equal intervals
   - Neither
B. Be prepared to describe the pattern of change and to tell how you found it.

1.

x	$f(x)$
-30	-57
-25	-47
-20	-37
-15	-27
-10	-17
-5	-7
0	3

Type of pattern of change _____

How I found the pattern of change:

_____

_____

_____

2.

$$f(0) = -3, \ f(n+1) = \frac{5}{3}f(n)$$

Type of pattern of change _____

How I found the pattern of change:
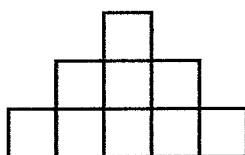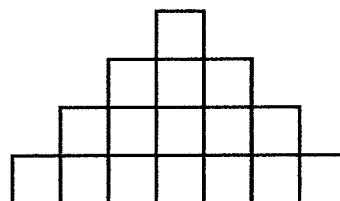
_____

_____

_____
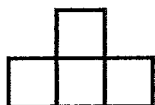
| Step 1 | Step 2 | Step 3 | Step 4 |

3. The pattern of change in the perimeter of the figures from one step to the next.

Type of pattern of change _____

How I found the pattern of change:

_____

_____

_____

4. The pattern of change in the area of the figures from one step to the next.

Type of pattern of change _____

How I found the pattern of change:

_____

_____

_____

5. $y = ax - 3$

Type of pattern of change _____

How I found the pattern of change:

_____

_____

_____

6.

x	$f(x)$
-10	7
-5	7
-0	7
5	7
10	7
15	7
20	7

Type of pattern of change _____

How I found the pattern of change:

_____

_____

_____

7. The height from the ground of a person on a ferris wheel that is rotating at a constant speed.

Type of pattern of change _____

How I found the pattern of change:

_____

_____

_____

8. $y = x$

Type of pattern of change _____

How I found the pattern of change:

_____

_____

_____

9.

x	$f(x)$
0	-5
4	-2
-4	-8
8	1
-8	-11

Type of pattern of change _____

How I found the pattern of change:

_____

_____

_____

10. The algae population in a pond increases by 3% each year until it depletes its food supply and then maintains a constant population.

Type of pattern of change _____

How I found the pattern of change:

_____

_____

_____

11.

x	$f(x)$
-5	238
-4	76
-3	22
-2	4
-1	-2
0	-4

Type of pattern of change _____

How I found the pattern of change:

_____

_____

_____

12. The change in the height of the ball from one bounce to the next if the ball is dropped from a height of 8 feet and the ball bounces to 80% of its previous height with each bounce.

Type of pattern of change _____

How I found the pattern of change:

_____

_____

_____

13.

x	y
3	-5
3	-10
3	-20
3	15
3	35
3	50

Type of pattern of change _____

How I found the pattern of change:

_____

_____

_____