

arithmetic
(+ or -)

1) 5, 10, 15, 20

x	f(x)
1	5
2	10
3	15
4	20

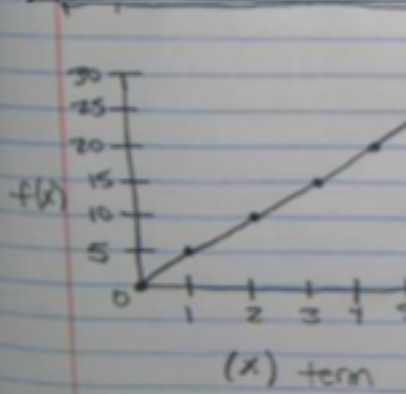
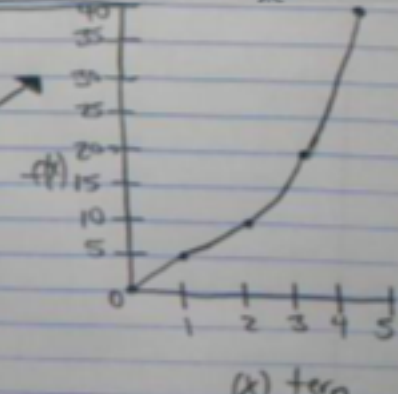
recursive: $f(x) = f(x-1) + 5$
explicit: $f(x) = 5x$

geometric
(x or ÷)

5, 10, 20, 40

x	f(x)
1	5
2	10
3	20
4	40

recursive: $f(x) = f(x-1) \times 2$
explicit: $f(x) = 5 \cdot 2^{(x-1)}$

**4th
Arithmetic/G
eometric
Comparison**

Summary: Explicit & Recursive Equations from Tables

Arithmetic

x	f(x)
0	5
1	10
2	15
3	20
4	25

Recursive: takes me down the f(x) column starting term

$f(x) = f(x-1) + 5 ; f(0) = 5$

Common difference

Explicit: takes me from left (x) to right (f(x))

$f(x) = 5x + 5$

Common difference

starting term (0th term)

not "0" term: f(1) or f(2) ...

$f(x) = 5(x-1) + 10$

1st term

**4th
Summary:
Equations
from Tables**

Geometric

x	f(x)
0	5
1	10
2	20
3	40
4	80

Recursive: down the $f(x)$ column starting term
 $f(x) = f(x-1) \cdot 2$; $f(0) = 5$

common ratio

Explicit:
 $f(x) = 5 \cdot 2^x$

"1st" term
 $f(x) = 10 \cdot 2^{(x-1)}$
 1st term $f(x)$

4th Summary: Equations from Tables (cont)

7th M2 1.7

1. a. yes, function
 b. linear
 c. increasing from $[0, \infty)$
 d.

hours	f(x)
0	55 + 35
1	90 + 35
2	125 + 35
3	160 + 35

2. a. yes
 b. quadratic
 c. increasing $[-3, 0]$
 decreasing $[0, 3]$
 d.

x	y
-2	1
-1	4
0	5
1	4
2	1

3. a. yes
 b. exponential
 c. decreasing
 d.