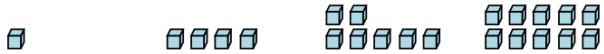
Name

Recognize constant first differences in a table

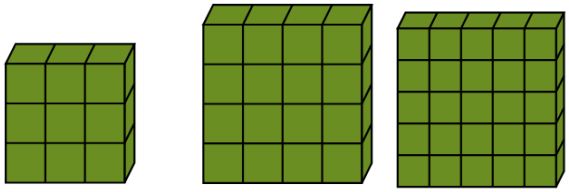
1

Start at 1 and add 3 for each term

A

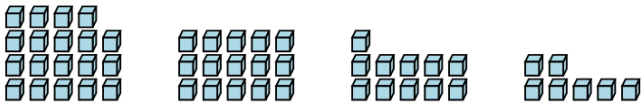


B



2

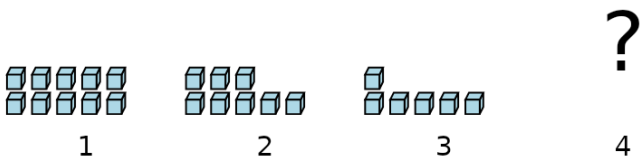
19, 15, 11, 7



A	B
19, 15, 11, 7	1, 2, 3, 5, 8

3

10, 8, 6, ?



A 4	B 0	C 5
D 9	E 6	F 7

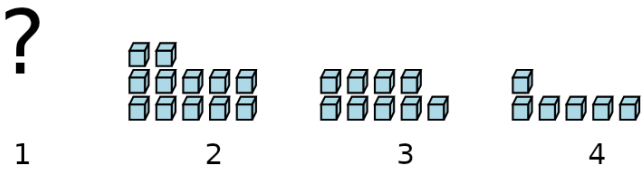
4

14, 16, 18, __, __, __

A 21, 24, 27	B 21, 23, 25
C 20, 22, 24	D 20, 23, 26
E 19, 21, 23	F 20, 21, 22

5

?, 12, 9, 6



A 18	B 22	C 15
D 8	E 11	F 17

6

3, 6, __, __, 15, 18

A 9, 12	B 9, 13
C 9, 11	D 10, 13
E 8, 11	F 10, 14

7

1, 5, 9, ?

A 10	B 13	C 16
D 17	E 15	F 18

Name

Recognize constant first differences in a table

8

3, 6, __, __, __, 18, 21

A 10, 14, 18	B 9, 12, 15
C 9, 11, 13	D 10, 12, 14
E 9, 13, 17	F 8, 11, 14

9

3, 5, ?, 9, 11

A 2	B 3	C 5
D 10	E 4	F 7

10

31, 25, 19, 13, ?

A 4	B 8	C 13
D 7	E 6	F 12

11

17, 14, 11, 8, 5

A Start at 16 and subtract 3 for each term	B Start with 17 and 20. Add the prior two terms for each subsequent term
C Start at 17 and subtract 6 for each term	D Start at 17 and subtract 3 for each term
E Start at 17 and subtract 0 for each term	F Start at 17 and subtract 7 for each term

12

What rule turns each input into its output?

Input	Output
9	5
11	7
13	9
17	13
18	14

A subtract 4	B subtract 9	C add 12	D add 11

13

What are the first 3 terms, starting with m = 1 in this number sequence

$$6 - 5m$$

A 11, 17, 23	B 2, -3, -8
C 1, -4, -9	D 11, 16, 21
E -31, -32, -33	F 2, -2, -6

14

Complete the first and second differences. Is the function linear, quadratic, or neither?

x	y	1st Diff	2nd Diff
2	-5		
3	-4		
4	-2		
5	1		
6	5		

A Neither	B Linear	C Quadratic

15

Is the function linear, quadratic, or neither?

x	y	1st Diff	2nd Diff
-1	6		
0	1	-5	
1	-4	-5	0
2	-9	-5	0
3	-14	-5	0

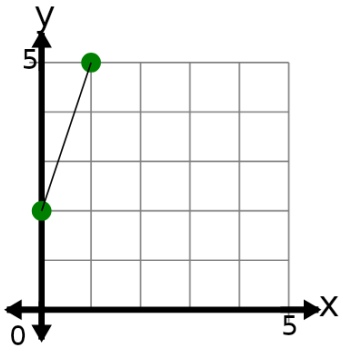
A Neither	B Linear	C Quadratic

Name

Recognize constant first differences in a table

16

What chart of X, Y values matches this graph?



A

X	Y
0	2
1	5
2	8
3	11
4	14

B

X	Y
0	2
1	−1
2	−4
3	−7
4	−10

17

Which completed table shows a quadratic function?

A

x	y	1st Diff	2nd Diff
-2	-2		
-1	-6	-4	
0	-13	-7	-3
1	-23	-10	-3
2	-36	-13	-3

B

x	y	1st Diff	2nd Diff
-1	-8		
0	-6	2	
1	-1	5	3
2	3	4	-1
3	10	7	3

Name

Recognize constant first differences in a table

18

m=-1

A

X	Y
0	1
1	0
2	−1
3	−2
4	−3

B

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

19

Complete the second differences. Is the function linear, quadratic, or neither?

x	y	1st Diff	2nd Diff
-1	-8	-2	
0	-10	-2	
1	-12	-2	
2	-14	-2	
3	-16		

A Quadratic

B Linear

C Neither

20

What equation would create this chart of X, Y values?

X	Y
0	2
1	3
2	4
3	5
4	6

A $y = \frac{1}{2}x + 2$

B $y = 1x + 2$

C $y = -1x + 2$