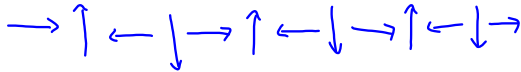


Bellwork:

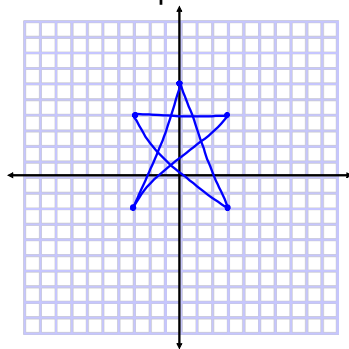
What do you already know about patterns and sequences?

Come up with a pattern or sequence of your own.



Just for fun, graph the following 6 points then connect them in order. What shape does it create? STAR

- Start
- (-3, -2)
- (0, 6)
- (3, -2)
- (-3, 4)
- (3, 4)
- (-3, -2)
- Stop



A. A pattern can be represented by a LIST.

Complete the following list then describe the pattern.

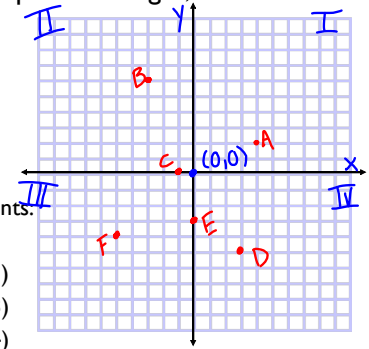
1) 4, 8, 12, 16, 20, 24 Pattern? Add 4

2) 3, 6, 12, 24, 48, 96 Pattern? Times 2

3) 1^2 , 2^2 , 3^2 , 4^2 , 5^2 , 6^2 , 7^2 Pattern n^2

On the coordinate graph to the right, label the following:

- ✓ Quadrants
- ✓ Axes (plural for axis)
- ✓ Origin



• Graph and label the points.

- ✓ A (4, 2) ✓ D (3, -5)
- ✓ B (-3, 6) ✓ E (0, -3)
- ✓ C (-1, 0) ✓ F (-5, -4)

Identifying Patterns

Patterns can be represented in many ways. Today we will discover only 3 of those ways.

B. A pattern can be represented by a CHARTS.

Complete the following charts then describe the patterns of each variable.

x	y	(ordered pair)
1	4	(1, 4)
2	8	(2, 8)
3	12	(3, 12)
4	16	(4, 16)

x's pattern: Add 1

y's pattern: Add 4

2)

x	y	(ordered pair)
1	3	(1, 3)
2	6	(2, 6)
3	12	(3, 12)
4	24	(4, 24)

x's pattern: Add 1

y's pattern: Times 2

3)

x	1	2	3	4
y	1	4	9	16

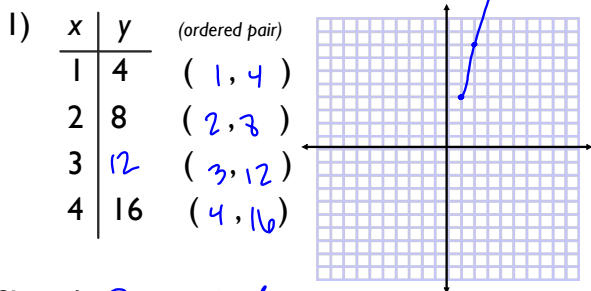
Ordered pairs: (1, 1)
(2, 4)
(3, 9)
(4, 16)

x's pattern: Add 1

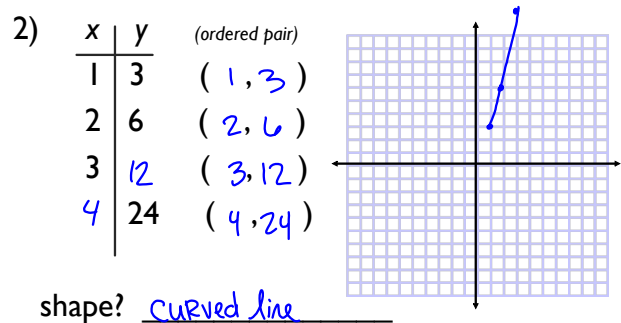
y's pattern: x^2

C. A pattern can be represented by a Graphs.

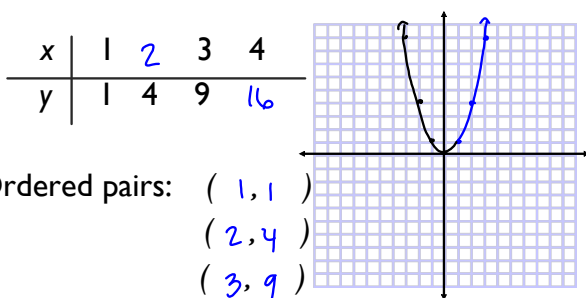
Graph the 3 charts below. If you mentally connect the points, what does each make?



Shape? Straight line



shape? curved line



Ordered pairs: (1, 1)
(2, 4)
(3, 9)
(4, 16)

Shape? curved line

Describe the three ways to represent patterns that we discussed today.

List
Chart
Graph