Warmup:

Match a graph and a table to each of the 3 functions

A) $f(x) = 2x + 3$ — Linear, y-int, slope

B) $f(x) = 2x^2 + 3$ — Quadratic

C) $f(x) = 2^x + 3$

1)

x	f(x)
-2	$\frac{13}{4}$
-1	$\frac{7}{2}$
0	4
1	5
2	7

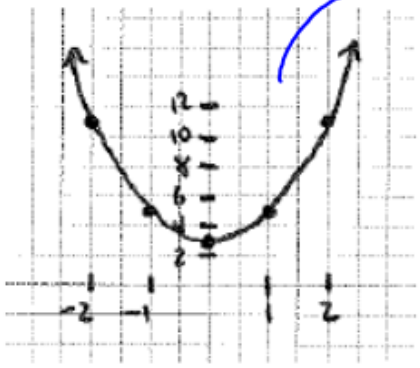
2)

x	f(x)
-2	-1
-1	1
0	3
1	5
2	7

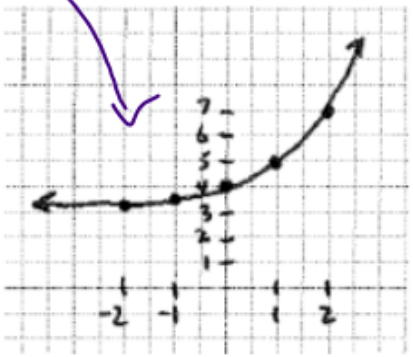
3)

x	f(x)
-2	11
-1	5
0	3
1	5
2	11

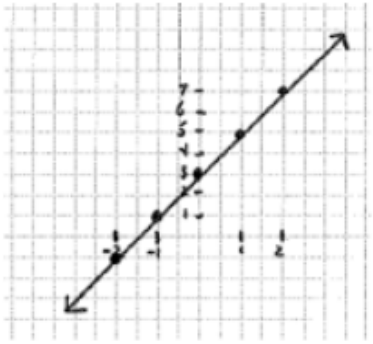
a)



b)



c)



Unit 5: Comparing and Contrasting Functions

- Deepen their understanding of linear, quadratic, and exponential functions as they compare and contrast the three types of functions.

- Construct and compare characteristics of linear, quadratic, and exponential models and solve problems.

- Distinguish between linear, quadratic, and exponential functions graphically, using tables, and in context.

Compare / Contrast: Linear, Quadratic, and Exponential Functions

Now that you have the graphs and tables to match each function:

complete the chart to identify some key characteristics of each function.

Attribute	Linear Functions	Quadratic Functions	Exponential Functions
Rate of change	constant slope = 2		Increasing.
Domain & Range	D: $(-\infty, \infty)$ R: $(-\infty, \infty)$	D: $(-\infty, \infty)$ R: $[3, \infty)$	D: $(-\infty, \infty)$ R: $(3, \infty)$
Intercepts	x-int: $-3/2$ y-int: 3	x-int: N/A y-int: 3	x-int: N/A y-int: 4
Asymptotes	N/A	N/A	$y = 3$
End Behavior	as $x \to \infty$ $y \to \infty$ as $x \to -\infty$ $y \to -\infty$	as $x \to \infty$ $y \to \infty$ as $x \to -\infty$ $y \to \infty$	as $x \to \infty$ $y \to \infty$ as $x \to -\infty$ $y \to 3$

Compare and Contrast Linear, Quadratic and Exponential Functions Task

In your notes you have a table for three different functions.

#1) In your groups, complete the table of values for each function

#2) Construct a graph of all three functions on the same coordinate plane. Use a different color for each function.

#3) Identify the listed features of each function in the chart.

#4) Create a poster showing your comparison of the three different functions.