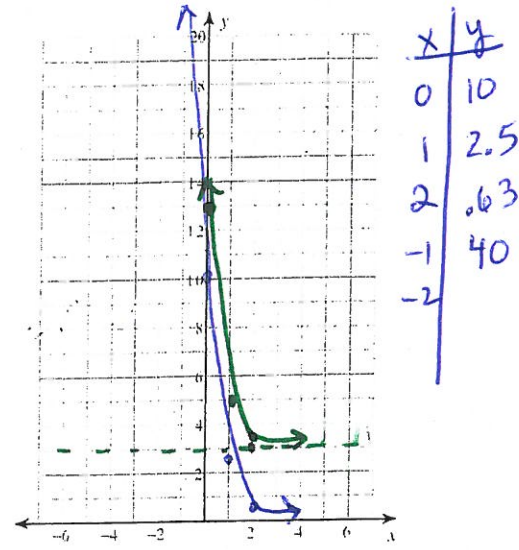
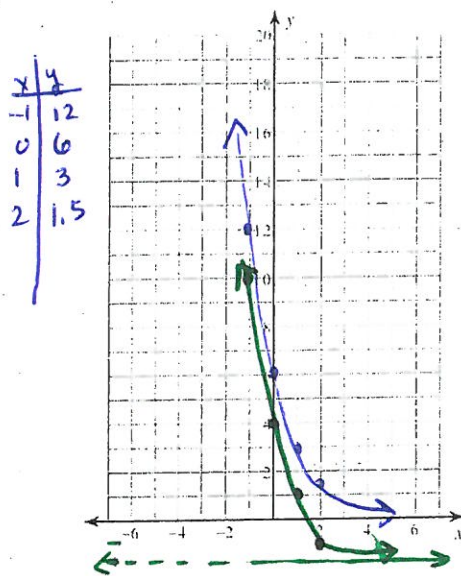
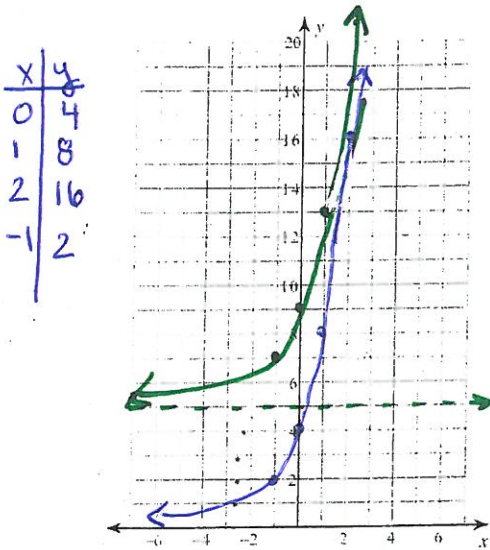


#1-3, Graph each function.

1. $y = 4(2)^x$

2. $y = 6 \cdot \left(\frac{1}{2}\right)^x$

3. $f(x) = 10 \cdot \left(\frac{1}{4}\right)^x$



#4-6, Using a colored pencil graph each of the following function on the graph above it. For example, #4 should be graphed on same graph as #1.

4. $y = 4(2)^x + 5$ —

5. $f(x) = 6 \cdot \left(\frac{1}{2}\right)^x - 2$ —

6. $f(x) = 10 \cdot \left(\frac{1}{4}\right)^x + 3$ —

7. What is the asymptote of the graph in #1. x axis

8. What is the asymptote in the graph of #4 y = 5

9. Prior to the start of a recession, the store *Edloe & Co.*'s monthly revenue hovered around \$800,000. A store's **revenue** is the total dollar amount that customers spend in the store on goods and services. Use data below.

a. What is the original revenue? \$800,000

b. What's the growth factor? 1.1 or 10%

c. Write an exponential function that describes this data.
 $y = 800,000(1.1)^x$

d. What is the revenue the 6th month after the start of the recession.
\$1,417,248.80

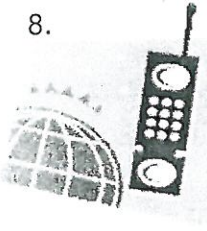
e. Assume that the domain of this exponential function is 16 months. In other words, assume that the recession will last for 16 months. At what point will revenues surpass 3 million dollars?

14 months.
 $3,000,000 = 800,000(1.1)^x$
guess and check or keep multiplying by 1.1

Edloe and Co. Revenues

- Prior to recession: \$800,000
- 1 month after recession: \$880,000
- 2 months after recession: \$968,000
- 3 months after recession: \$1,171,280
- 4 months after recession: \$1,288,408

8.

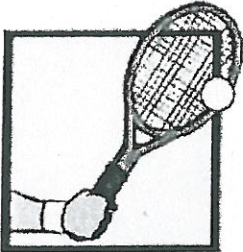


In 1985, there were 285 cell phone subscribers in the small town of Centerville. The number of subscribers increased by 75% per year after 1985. How many cell phone subscribers were in Centerville in 1994? (Don't consider a fractional part of a person.)

$$y = 285(1.75)^9$$

43,871 peeps

9.



Each year the local country club sponsors a tennis tournament. Play starts with 128 participants. During each round, half of the players are eliminated. How many players remain after 5 rounds?

$$128\left(\frac{1}{2}\right)^5 = y$$

4 players

#10-14, Use the information to write an equation for each function. *Be careful*

10.

x	f(x)
0	2
1	6
2	18
3	54
4	162

+3

$$y = 2(3)^x$$

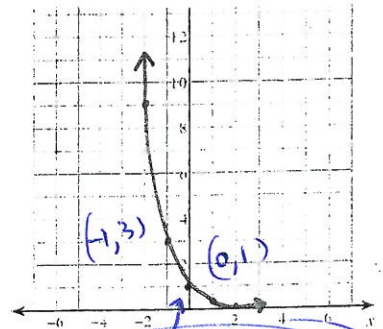
11.

x	f(x)
-1	0.75
1	12
2	48
3	192
4	768

(0, 3)

$$y = (3)4^x$$

12.



$$y = 1\left(\frac{1}{3}\right)^x$$

13. (0,3), (1, 5), (2,7)

Linear!

$$y = 2x + 3$$

14. (1, 15), (2, 45), (4, 405)

(0, 5) ← ÷3 ×3 (3, 135)

$$y = 5(3)^x$$