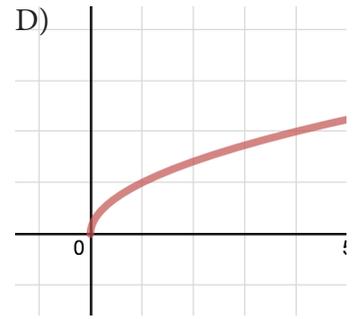
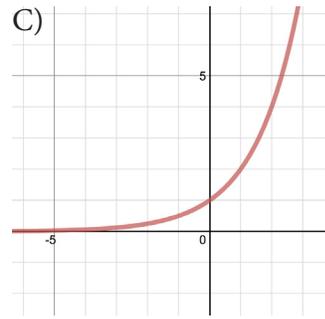
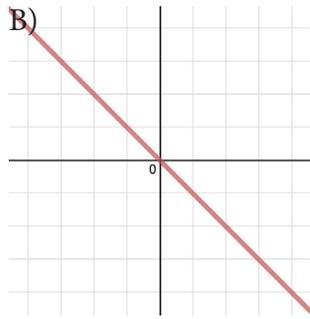
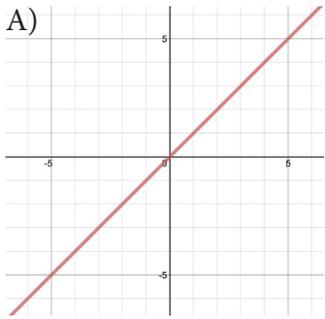


1) Before entering it into the calculator, which of these graphs would you **guess** represents the exponential function, $f(x) = 2^x$?

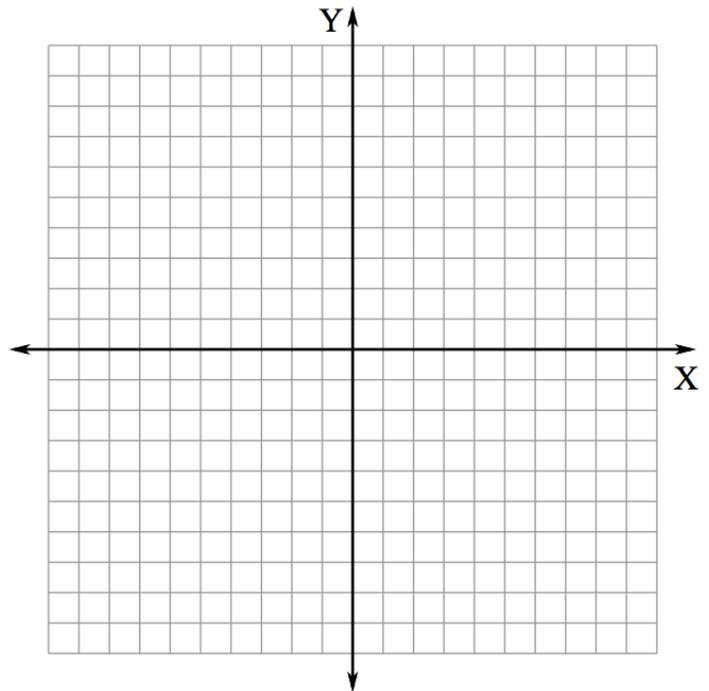


2) Write one reason why you chose the graph that you did:

3) Enter $f(x) = 2^x$ into your calculator. Go to **2nd Graph** to get to the **Table**. Complete the table below.

x	f(x)
-1	
0	
	2
2	
	8
4	

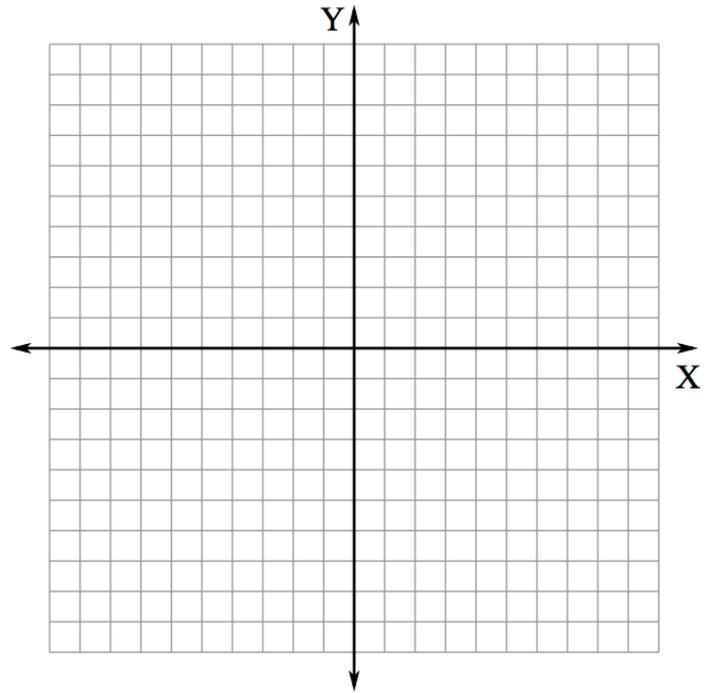
4) Enter $f(x) = 2^x$ into your calculator. Graph the function in your calculator. Draw the graph below.



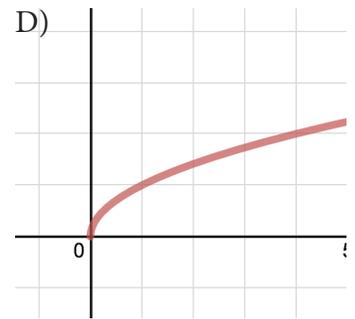
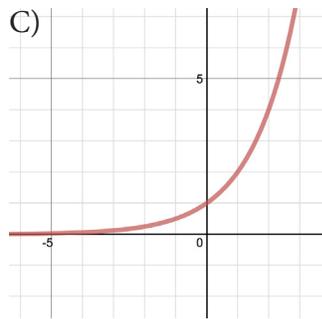
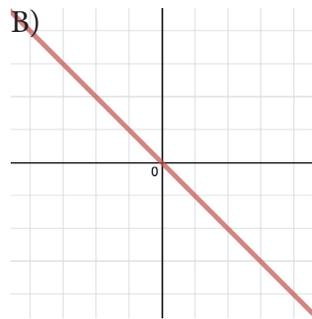
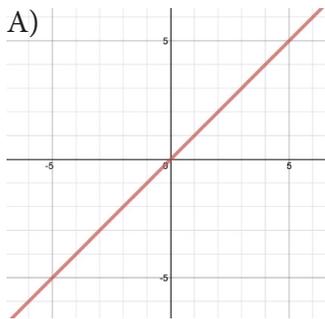
5) What is the y-intercept?

6) A bacteria culture starts with 4 cells. The bacteria grows at a rate of 15% per day. Write an exponential function $f(t)$ that models this scenario.

7) Graph your function on the calculator. Draw it below.



8) Which of these graphs would you guess represents the radical function, $f(x) = \sqrt{x}$? Talk to the others at your table.

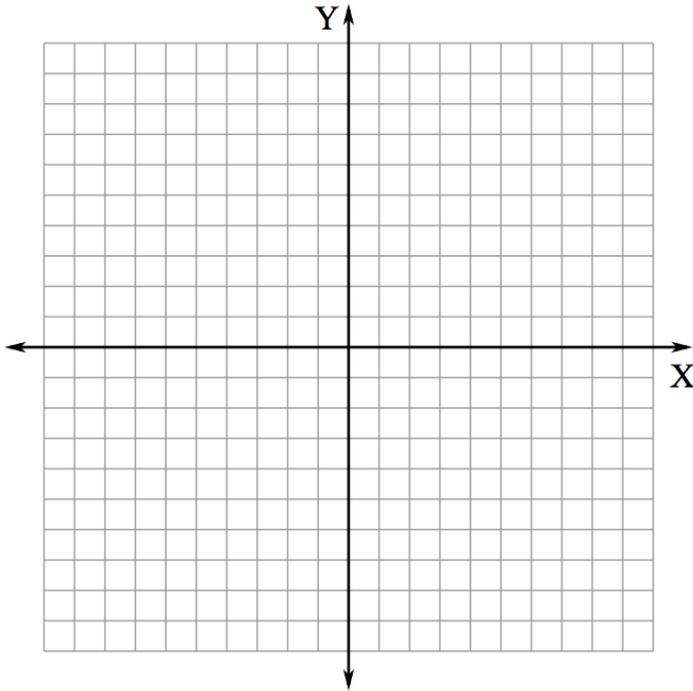


9) Write one reason for choosing the graph that you did.

10) Enter $f(x) = \sqrt{x}$ into your calculator. Fill in the table below.

x	f(x)
0	
	1
4	
	3
16	

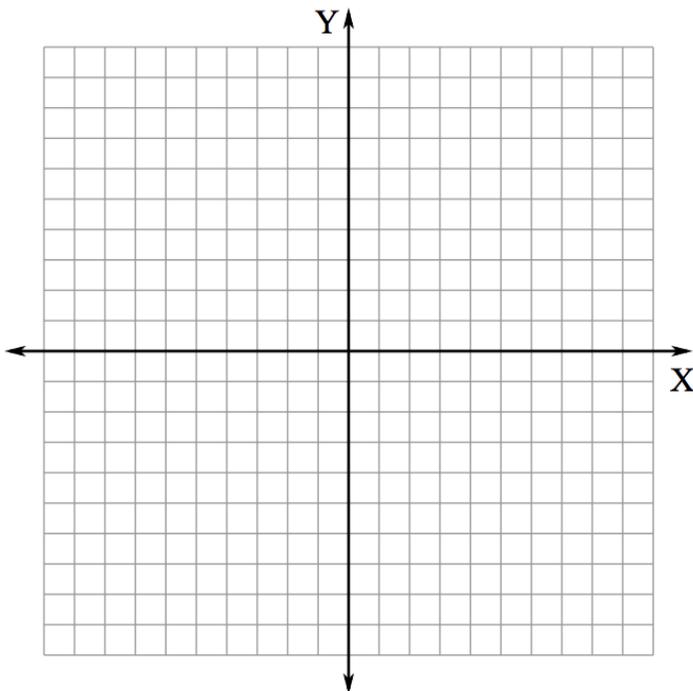
11) Graph $f(x) = \sqrt{x}$. Draw the graph below.



12) Name one similarity between your graph in #4 (2^x) and your graph in #11 (\sqrt{x}).

13) Name one difference between your graph in #4 (2^x) and your graph in #11 (\sqrt{x}).

14) Graph $f(x) = \sqrt{2x^3}$. Draw the graph below.



15) Does your graph in #14 ($\sqrt{2x^3}$) look more similar to #11 (\sqrt{x}) or #4 (2^x)?

16) Why do you think that is?

Complete the following problems to review for your test.

Simplify. Your answer should contain only positive exponents.

$$17) \frac{4y^{-1}}{-4x^4 y^{-4} \cdot -3x^2}$$

$$18) \left(\frac{2a^3 b^3}{-2a^4 b^0} \right)^4$$

19) a. When you breathe normally, about 12% of the air in your lungs is replaced with each breath. Write a function $f(t)$ that models the amount of the **original** air left in your lungs at any given time, given that the initial volume of air is 500 mL.

b. How much of the original 500 mL remains after 50 breaths?

Simplify.

$$20) \sqrt[3]{96}$$

$$21) \sqrt[3]{28n^3}$$

$$22) -3\sqrt{2} - 2\sqrt{2}$$

$$23) -5\sqrt{6} \cdot \sqrt{12}$$

$$24) \frac{\sqrt{10}}{5\sqrt{5}}$$

$$25) -\sqrt{3} - 2\sqrt{12}$$

$$26) \sqrt{2}(\sqrt{3} + \sqrt{2})$$

$$27) \frac{4\sqrt{12}}{\sqrt{15}}$$

$$28) \sqrt{12} \cdot -3\sqrt{3}$$