

Name: _____ Date: _____ Period: _____

Algebra 1B practice quiz on exponential functions and growth and decay

Show your work where needed, and write your answer in the answer box to the right

Indicate whether the following equations are showing exponential growth or decay:

1) $y = \left(\frac{2}{5}\right)^x$ 2) $y = -3\left(\frac{5}{9}\right)^x$ 3) $y = 9^x$ 4) $y = \left(\frac{11}{7}\right)^x + 2$

Indicate whether the following equations would be narrow, wide or regular:

5) $y = 4^x$ 6) $y = 7\left(\frac{2}{3}\right)^x$ 7) $y = \frac{3}{5}(8)^x$ 8) $y = \frac{12}{5}(3)^x$

Find the y-intercept of the following equations:

9) $y = 9^x$ 10) $y = -4\left(\frac{10}{9}\right)^x + 2$

11) 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.

a) Write an equation that shows that number of subscribers since 1985.

b) Find how many cell phone subscribers were in Centerville in 1994 using that equation.

12) Each year the local country club sponsors a tennis tournament. Play starts with 128 participants. During each round, half of the players are eliminated.

a) Write an equation that shows the number of participants from the beginning of the tournament.

b) Use that equation to find how many players remain after 5 rounds.

In the back of this paper, make an x-y table, and graph the following equation:

13) $y = -2(3)^x + 1$

Extra credit: Write an equation and find a bank account balance if the account starts with \$100, has an annual rate of 4% and it's compounded monthly, and the money left in the account for 12 years.

1) _____

2) _____

3) _____

4) _____

5) _____

6) _____

7) _____

8) _____

9) _____

10) _____

11a) _____

11b) _____

12a) _____

12b) _____

13) Make x-y table and

graph on the back

Extra credit

Equation:

Money after 12 years: