

Evaluate each function. $f(x) = 2^x$ $g(x) = 3x + 5$

1. $f(3)$ 2. $g(-5)$ 3. $g(4) - 3$

4. $6[f(-1)]$ 5. $\frac{g(3)}{f(1)}$ 6. $f(2) - g(1)$

Decide if the situation represents a linear increasing function, a linear decreasing function, an exponential growth function, or an exponential decay function. Then identify the factor/rate of change and the y-intercept.

7)

$$f(x) = 5 \cdot (3)^x$$

function type:

factor/rate of change:

y-intercept:

8)

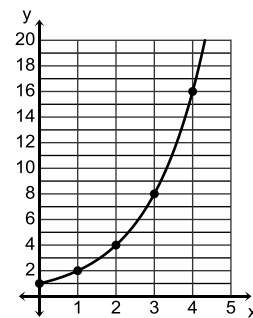
x	f(x)
0	-8
1	-2
2	4
3	10
4	16

function type:

factor/rate of change:

y-intercept:

9)



function type:

factor/rate of change:

y-intercept:

10)

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

function type:

factor/rate of change:

y-intercept:

11)

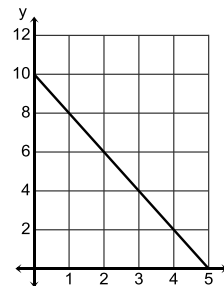
$$f(x) = -5x + 8$$

function type:

factor/rate of change:

y-intercept:

12)



function type:

factor/rate of change:

y-intercept:

Decide if the situation represents a linear increasing function, a linear decreasing function, an exponential growth function, or an exponential decay function. Then write the equation that represents the situation.

13) Jaxon has been to 25 Rockies' games and plans on going to 2 more per year.

Function type:

Equation:

14) Mr. Wallace has 20 pencils in his desk drawer, each day two students will borrow a pencil and not return them. .

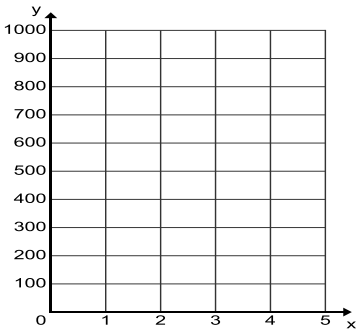
Function type:

Equation:

15) Mrs. Sikes has 200 cans of Diet Coke in her monthly supply and drinks 25% of her supply each week.

Function type:

Equation:

<p><u>Context</u></p> <p>You have \$100 in your savings account and plan on doubling the amount of money each week by working hard.</p>	<p><u>Table</u></p> <table border="1" data-bbox="946 233 1328 722"> <thead> <tr> <th>Months</th> <th>Money</th> </tr> </thead> <tbody> <tr><td>0</td><td></td></tr> <tr><td>1</td><td></td></tr> <tr><td>2</td><td></td></tr> <tr><td>3</td><td></td></tr> <tr><td>4</td><td></td></tr> <tr><td>5</td><td></td></tr> </tbody> </table>	Months	Money	0		1		2		3		4		5	
Months	Money														
0															
1															
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3															
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5															
<p><u>Graph</u></p> 	<p><u>Factor (b):</u></p> <p><u>Start Point (a):</u></p> <p><u>Equation:</u></p>														

Determine the multiplier for each growth rate or decay rate.

18) 25% growth

19) doubling

20) 6% decay

21) 0.2% growth

Decide if the situation represents a linear increasing, linear decreasing, an exponential growth, or an exponential decay function. Then write the equation that represents the situation. Use the equation to answer the question.

22) You are walking in the park and notice that each day you see two more squirrels than the day before. If there was only 3 squirrels on the first day that you walked in the park, how many would there be after eight more days in the park?

Linear Increasing
 Linear Decreasing
 Exponential Growth
 Exponential Decay

Equation: $f(x) =$

Answer:

23) The first day you played the game Mathquest on your computers, you managed to score 52 points. If you set a goal to increase your score by eight points every time you play the game, how many points would you have after playing it 100 times?

- Linear Increasing
- Linear Decreasing
- Exponential Growth
- Exponential Decay

Equation: $f(x) =$

Answer:

24) You got a baseball card from your uncle and he said it was worth \$50. If it appreciates at a rate of 16% per year, what would be the value after 5 years?

- Linear Increasing
- Linear Decreasing
- Exponential Growth
- Exponential Decay

Equation: $f(x) =$

Answer:

25) On the day of the Super Bowl, there were 700,000 “**49er’s**” fans. The number of “**49er’s**” fans is decreases by 25% each month. How many “**49er’s**” fans are there in a year?

- Linear Increasing
- Linear Decreasing
- Exponential Growth
- Exponential Decay

Equation: $f(x) =$

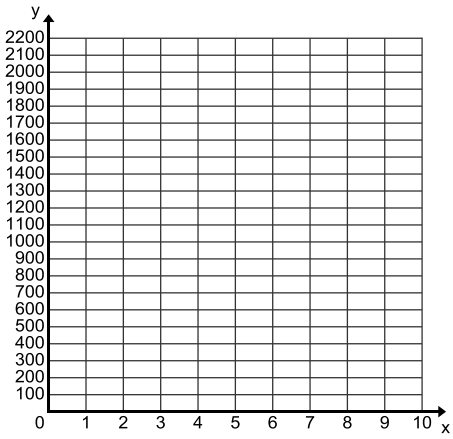
Answer:

Use the given information to answer the following questions:

26). The number of twitter accounts is modeled by the equation $f(x) = 50,000(1.75)^x$ per month. Does this represent growth or decay? Find the number of twitter accounts after 6 months.

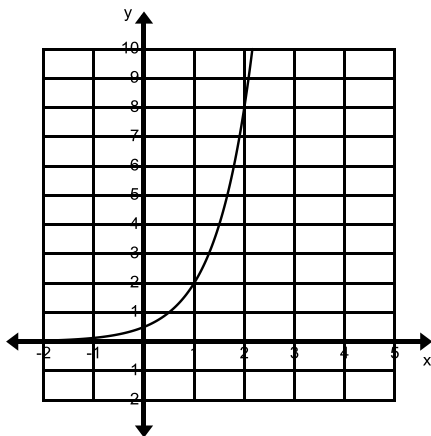
27). The number of regular telephones is modeled by the equation $f(x) = 825,000(0.85)^x$ per day. Does this represent growth or decay? Find the number of telephones after 2 weeks.

28-32. Fill in the table and answer the questions.

<p><u>Context</u></p> <p>Chris is saving money to go to Disneyland. He is making 10% per year. He currently has \$1,600 in his savings account.</p>	<p><u>28) Table</u></p> <table border="1" style="margin-left: auto; margin-right: auto;"> <tr><td></td><td></td></tr> <tr><td>0</td><td></td></tr> <tr><td>1</td><td></td></tr> <tr><td>2</td><td></td></tr> <tr><td>3</td><td></td></tr> <tr><td>4</td><td></td></tr> <tr><td>5</td><td></td></tr> </table>			0		1		2		3		4		5		<p><u>29) Questions</u></p> <p>a) discrete or continuous</p> <p>b) domain</p> <p>c) range</p>
0																
1																
2																
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5																
<p><u>30) Graph</u></p> 	<p><u>31) _____.</u></p> <p><u>Starting Point (a):</u></p> <p><u>Factor of Change (b):</u></p> <p><u>Equation :</u></p>	<p><u>32) _____</u> d) What is the value at $f(9)$?</p> <p>e) What does your answer in part d mean?</p>														

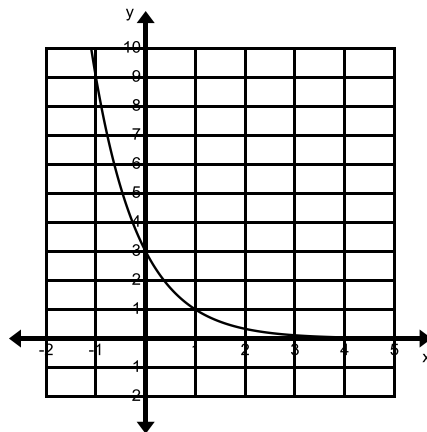
Fill in the table given the information in the graph and then determine the Exponential Equation, $f(x) = a \cdot b^x$.

33)



$f(x) =$

34)



$f(x) =$
