Unit 3 – Milestone Study guide questions
Name_____

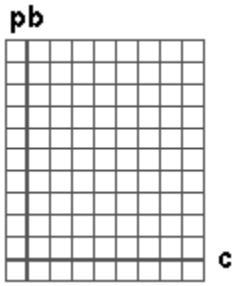
Part 1: Review of Unit 2

Write an equation to represent: Silas has $24 to spend on fudge at the fair. Chocolate cost $4 per pound (independent variable) and peanut butter costs $3 per pound (dependent variable).

2.) Put your equation in slope intercept form

3.) Assume the pounds of fudge are individually wrapped and that they don't allow you buy fractional portions. What are the different combinations of fudge he can purchase to spend exactly $24?

C	0	1	2	3	4	5	6
PB							



4.) If Silas wanted to spend at most $24, how does that change your formula?

5.) How does that change your chart?

C	0	1	2	3	4	5	6
PB							

6.) How does that change your graph?

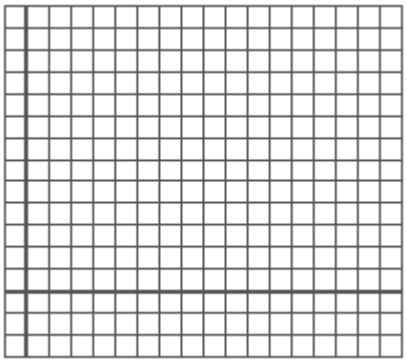
7.) Is there an ordered pair that satisfies both of these equations?
y = 2x – 3 y = -x + 6

x	y
-1	
0	
1	
2	
3	

x	y
-1	
0	
1	
2	
3	

If so, where is it? _____

8.) Graph both of the lines in #7.

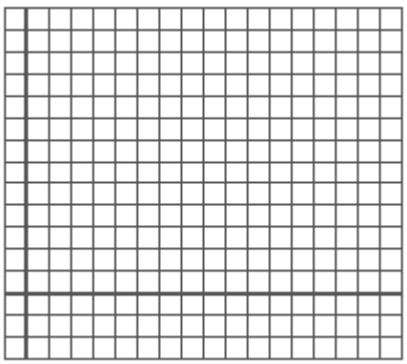


Where do the lines intersect?

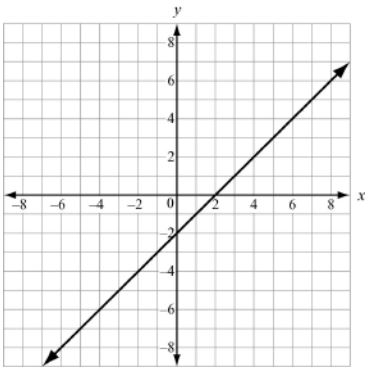
_____

9.) Plug in that coordinate into both equations. What do you notice?
y = 2x – 3 y = -x + 6

10.) Graph 5x – 3y < 6

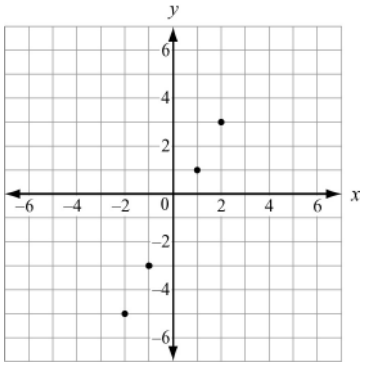


11.) Which is the equation of the line?



A. $y = x + 1$ **B.** $y = 2x + 1$
C. $y = x - 2$ **D.** $y = 3x - 1$

12.) Which equation corresponds to the points in the coordinate plane?

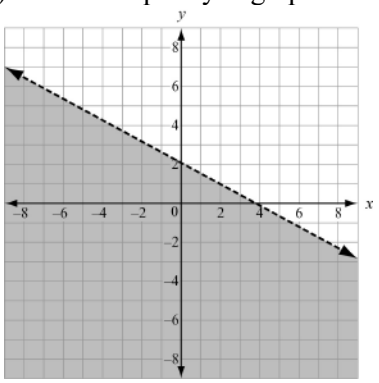


A. $y = 2x - 1$ **B.** $y = x - 3$
C. $y = x + 1$ **D.** $y = x - 1$

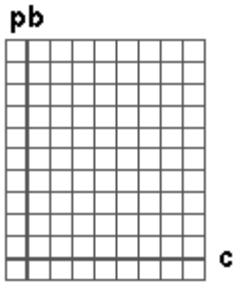
13.) What common point do the equations $y = -x + 5$ and $y = 2x - 1$ share?

A. (1, 1) **B.** (3, 5)
C. (2, 3) **D.** (3, 2)

14.) Which inequality is graphed?



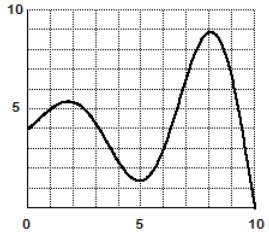
A. $x - 2y > 4$ **B.** $x - 2y < 4$
C. $x + 2y < 4$ **D.** $x + 2y > 4$



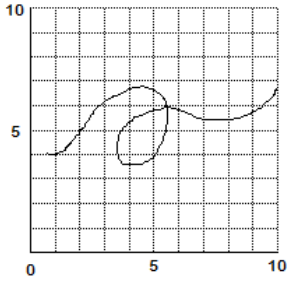
Part 2: Functions

1.) What's the name of the test to determine if the relation is a function by just looking at the graph?

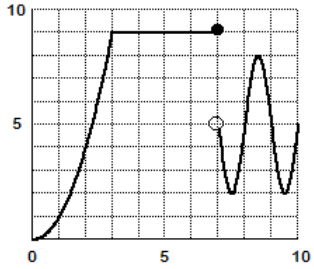
Are the following functions? Explain. 2.)



3.)



4.)



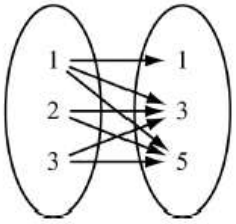
5.) a horizontal line

6.) a vertical line

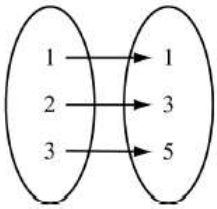
7.) {(2, 4), (5, 3), (2, 7), (1, -7)}

8.) {(-2, 4), (-5, 3), (-2, 4), (-1, 7)}

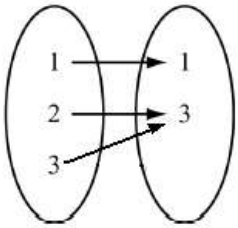
11.)



12.)



13.)



14.)

x	y
1	1
2	3
3	5

15.)

x	y
1	1
1	3
1	5
2	3

16.)

x	y
1	1
1	3
3	5

17.)

x	y
2	1
1	4
2	1

Function Notation:

18.) Given $f(x) = 2x - 1$, find $f(7)$.

19.) $f(x) = 3x + 2$ $g(x) = -2x$
$h(x) = x^2$ $k(x) = -x + 5$

find h(-3) = g(4) =

k(7) = f(100) =

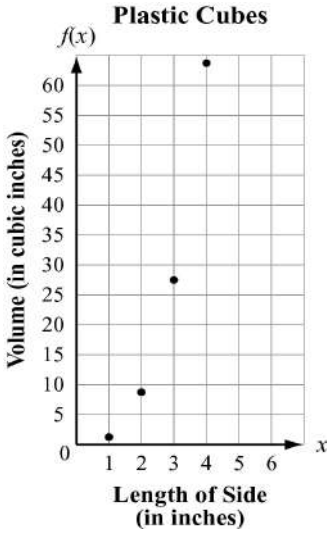
A manufacturer keeps track of her monthly costs by using a "cost function" that assigns a total cost for a given number of manufactured items, x. The function is $C(x) = 5{,}000 + 1.3x$.

22.) What is the domain of this function?
a.) real numbers b.) integers
c.) whole numbers d.) natural numbers
Explain your answer:

23.) What is the cost of 2,000 manufactured items? Put your answer in function notation.

24.) If costs must be kept below $10,000 this month, what is the greatest number of items she can manufacture?

A company makes cubes that have lengths of 1, 2, 3, and 4 inches. The volume of a plastic cube can be found by the equation $f(x) = x^3$.



9.) {(1, 4), (1, 3), (1, 7), (1, -7)}

10.) {(-2, 5), (4, 5), (17, 5)}

20.) If $g(6) = 3 - 5(6)$, find $g(x)$.

21.) If $f(-2)=-4(-2)$, find $f(b)$.

25.) What is the domain of this function

26.) What is the range of this function?

27.) What's the volume if the side length were m?

Part 3: Sequences p. 80

1.) In the sequence -5, -1, 3, 7…

$a_1 = -5$, $a_2 =$ _____ $a_3 = 3$, $a_4 =$ ____

2.) Write the first five numbers in the sequence that represents $f(n) = -(1 - 4n)$

3.) Match the sequence with the function.

1, 2, 3, 4, 5… ____ a.) f(x) = 10x

6, 7, 8, 9, 10… ____ b.) f(x) = x

5, 25, 125, 625… ____ c.) f(x) = x + 5

10, 20, 30, 40, 50… ____ d.) $f(x) = 5^x$

4.) 16, 8, 4, 2, 1, $\frac{1}{2}$, $\frac{1}{4}$

a.) Is this sequence finite or infinite?

b.) Put this sequence in the y column of a table, using the term number as the value in the x column

x	1						
y	16						

c.) What's the formula for this sequence as a function?

4.) How could you tell if a sequence could be represented by a *linear* function?

If the sequence is linear, then it can be represented by the recursive formula $a_n = a_{n-1} + d$
For example: 4, 6, 8, 10, 12…

$a_1 = 4$, $a_n = a_{n-1} + 2$

6.) Consider this sequence: 5, 7, 11, 19, 35, 67 . . .
a. Is this a finite sequence or an infinite sequence?

b. What is a_1? What is a_3?

c. What is the domain of the sequence?

d. What is the range?

e. Is this linear?

f. I want to do something mathematical to 11 and get 19. If I doubled it, would I get 19? What if I doubled it and then subtracted something? Does that work for the rest of them?

g. Write the recursive definition for this sequence

7.) The first term in this sequence is -1.

n	1	2	3	4	5	…
a_n	-1	1	3	5	7	…

Which function represents the sequence?
A. $n + 1$ **B.** $n + 2$ **C.** $2n - 1$ **D.** $2n - 3$

8.) Which function is modeled in this table?

x	$f(x)$
1	8
2	11
3	14
4	17

A. $f(x) = x + 7$

B. $f(x) = x + 9$

C. $f(x) = 2x + 5$

D. $f(x) = 3x + 5$

9.) Which explicit formula describes the pattern in this table?

Another example: 50, 45, 40, 35, 30…

$a_1 = 50$, $a_n = a_{n-1} - 5$

5.) Write the recursive definition for the following sequence: -15, -9, -3, 3, 9…

d	*C*
2	6.28
3	9.42
5	15.70
10	31.40

A. $d = 3.14 \times C$

B. $3.14 \times C = d$

C. $31.4 \times 10 = C$

D. $C = 3.14 \times d$

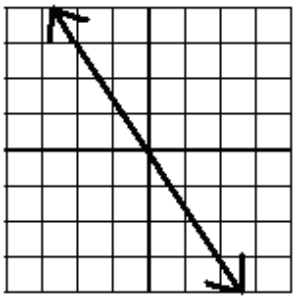
10.) If $f(12) = 4(12) - 20$, which function gives $f(x)$?

A. f(x) = 4x B. f(x) = 12x

C. f(x) = 4x – 20 D. f(x) = 12x – 20

Part 4: Characteristics of Functions p. 83

Think about this graph



1.) What's the domain?

a.) whole numbers
b.) natural numbers
c.) integers
d.) real numbers

2.) What's the range?

3.) Where's the x-intercept?

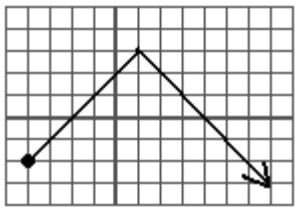
4.) Where's the y-intercepts?

5.) When is the graph increasing?

6.) What is the graph decreasing?

7.) Which is/are true?

a.) When x < 0, , f(x) > 0
b.) When x > 0, f(x) < 0
c.) When x < 0 , f(x) < 0
d.) When x > 0, f(x) > 0



Give all the following:

11.) domain

12.) range

13.) x-int's/zeros

14.) y-int

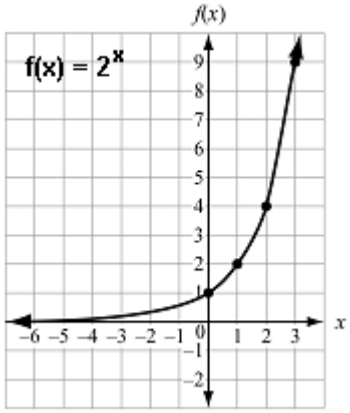
15.) interval of increase

16.) interval of decrease

17.) where positive

18.) where negative

19.) maximum value



Give all the following:

22.) domain

23.) range

a.) x < 0 *c.) y < 0*
b.) x > 0 *d.) y > 0*

24.)* x-int's/zeros

25.) y-int

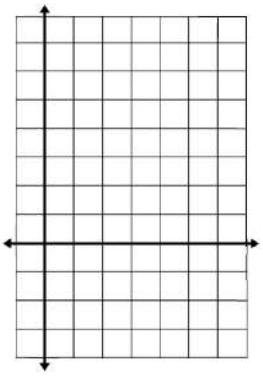
26.) interval of increase

27.) interval of decrease

28.) where positive

29.) where negative

30.) maximum value



33.) Graph, "Sara started with a balance of –$4 and deposited $2 every day for 4 days"

Give all the following:

34.) domain

35.) range

36.) x-int's/zeros

37.) y-int

38.) interval of increase

39.) interval of decrease

40.) where positive

41.) where negative

8.) What is the minimum value?

9.) What is the maximum value?

10.) What is the rate of change?

20.) minimum value

21.) rates of change

31.) minimum value

32.) Is the rate of change constant or variable?

42.) maximum value

43.) minimum value

44.) rate of change

When you don't have a graph, and you are asked for the x-intercept, **you plug zero in for y** and solve for x. If you are asked for the y-intercept, **you plug zero in for x** and solve for y.

45.) Find the x and y intercepts.
$2x + 3y = 18$

46-51.) Let $h(x)$ be the number of person-hours it takes to assemble x engines in a factory. The company's accountant determines that the time it takes depends on start-up time and the number of engines to be completed. It takes 6.5 hours to set up the machinery to make the engines and about 5.25 hours to completely assemble one.

46.) Which is the correct model for this situation?

a.) $h(x) = 6.5 + 5.25x$
b.) $h(x) = 6.5 - 5.25x$
c.) $h(x) = 5.25 + 6.5x$
d.) $h(x) = 5.25 - 6.5x$

47.) What is the domain?

a.) whole #'s *b.) natural #'s*
c.) integers *d.) real #'s*

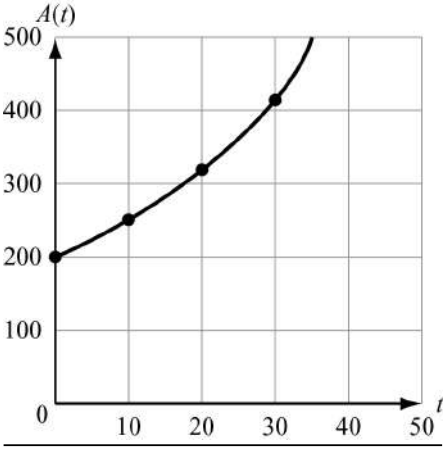
48.) Fill in the rest of this table

***x* (engines)**	***h*(*x*) hours**
0	6.5
1	11.75
2	17
3	
10	
100	

49.) What is the y-intercept?

50.) What is the x-intercept?

With a principle amount of $200 and an interest rate of 2.5%, the equation to figure out the amount of money accumulated after a certain time, t is $A(t) = 200(1.025)^t$



52.)

a. What are the intercepts of the function $A(t)$?

b. What is the domain of the function $A(t)$?

c. Why are all the t values non-negative?

d. What is the range of $A(t)$?

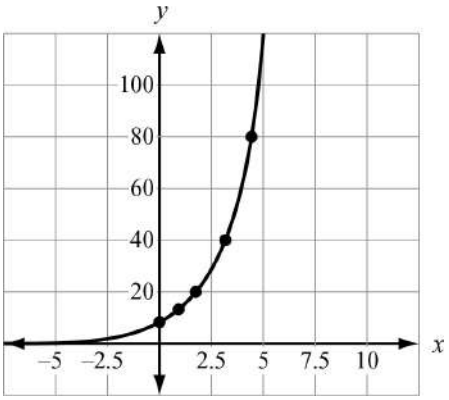
e. Does $A(t)$ have a maximum or minimum value?

A company uses the function $V(x) = 28{,}000 - 1{,}750x$ to represent the depreciation of a truck, where V is the value of the truck and x is the number of years after its purchase.

56.) A farmer owns a horse that can continuously run an average of 8 miles an hour for up to 6 hours. Let y be the distance the horse can travel for a given x amount of time in hours. The horse's progress can be modeled by a function. Which of the following describes the domain of the function?

A. $0 \le x \le 6$
B. $0 \le y \le 6$
C. $0 \le x \le 48$
D. $0 \le y \le 48$

57.) A population of squirrels doubles every year. Initially there were 5 squirrels. A biologist studying the squirrels created a function to model their population growth, $P(t) = 5(2^t)$ where t is time. The graph of the function is shown. What is the range of the function?



A. any real number
B. any whole number greater than 0
C. any whole number greater than 5
D. any whole number greater than or equal to 5

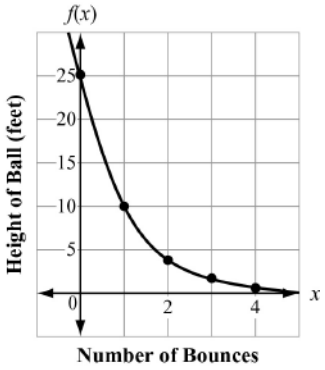
58.) This function shows y, the height of a dropped ball in feet after its xth bounce. When was the ball @10ft?

51.) What is the rate of change?

53.) What is the *y*-intercept of the graph of the function?

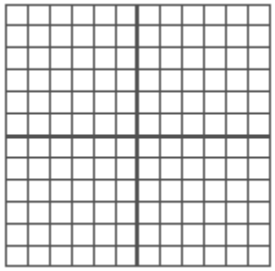
54.) Does the graph of the function have an *x*-intercept?

55.) circle one:
As $x > 0$, $V(x)$ *increases/decreases*



59.) For which values of x will f(x) be positive if f(x) = x + 5?
AKA: Solve x + 5 > 0

60.) Sketch a graph of f(x) = x + 5. Were you right?



61.) For which values of x will g(x) be positive if g(x) = 2x – 5?

62.) For which values of x will h(x) be negative if h(x) = -2x?

63.) $p(x) = \frac{1}{2}x - 3$
a.) function family

b.) domain: c.) range:

d.) x – int e.) y – int

64.)

x	*g(x)*
–3	–11
–2	–9
–1	–7
0	–5
1	–3
2	–1
3	1
4	3

a.) Is g(x) linear or exponential?

b.) What is the rate of change for g(x)?

65.)

x	*h(x)*
–3	6
–2	4
–1	2
0	0
1	–2
2	–4
3	–6
4	–8

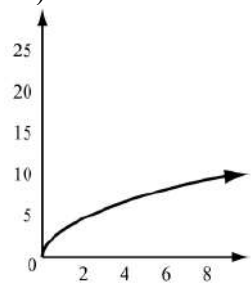
a.) Is h(x) linear or exponential?

b.) What is the rate of change for h(x)?

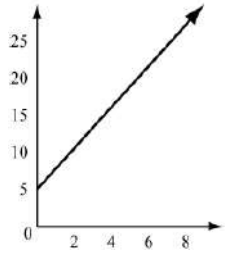
66.)

67.) To rent a canoe, the cost is $3 for the oars and life preserver, plus $5 an hour for the canoe. Which graph models the cost of renting a canoe?

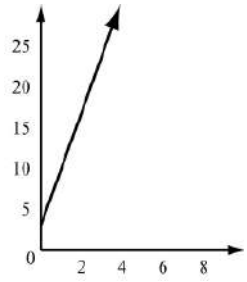
A.)



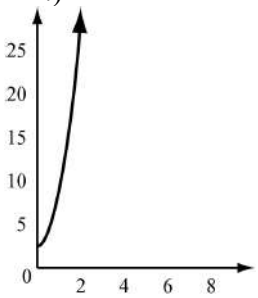
B.)



C.)



D.)



68.) Juan and Patti decided to see who could read the most books in a month. They began to keep track after Patti had already read 5 books that month. This graph shows the number of books Patti read for the next 10 days.

f.) rate of change

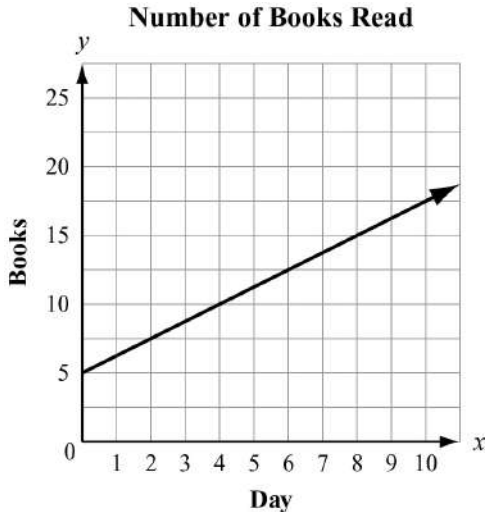
g.) when is p(x) positive?

h.) when is p(x) negative?

x	$f(x)$
–3	$\frac{1}{8}$
–2	$\frac{1}{4}$
–1	$\frac{1}{2}$
0	1
1	2
2	4
3	8
4	16

a.) Is h(x) linear or exponential?

b.) What is the rate of change for h(x)?



If Juan has read no books before the fourth day of the month and he reads at the same rate as Patti, how many books will he have read by day 12?

A. 5 B. 10 C. 15 D. 20

Part 5: Writing Equations p. 100

Joe started with \$13. He has been saving \$2 each week to purchase a baseball glove.

1.) Is the amount that he has been saving constant?

2.) Is this linear or exponential?

3.) Let S be the amount he has saved and x is the number of weeks. Write the explicit equation for $S(x)$.

Pete withdrew half his savings every week. He started with \$400 (at week zero).

4.) Is the amount Pete withdrew constant?

5.) Is this linear or exponential?

6.) Let $A(x)$ be the amount he has in his account after x withdraws. Write the explicit equation for $A(x)$.

A population of squirrels doubles every year. Initially there were 5 squirrels.

7.) Is the amount the population is increasing constant?

8.) Is this linear or exponential?

9.) Let S be the amount of squirrels and x is the number of years. Write the explicit equation for $S(x)$.

Consider the number of sit-ups Clara does each week as listed in the sequence 3, 6, 12, 24, 48, 96, 192

14.) Fill in this table

x	1	2	3	4	5	6	7
y	3	6					

15.) Write the explicit equation for the number of sit-ups Clara does

16.) Write the recursive definition for the number of sit-ups Clara does

A scientist collects data on a colony of microbes. She notes these numbers: 800, 400, 200, 100, 50, 25

x	1	2	3	4	5	6
y						

17.) Write the explicit equation for the number of microbes

18.) Write the recursive definition for the number of microbes

20.) The function $f(n) = -(1 - 4n)$ represents a sequence. Create a table showing the first five terms in the sequence. Identify the domain and range of the function.

21.) Which function represents this sequence?

n	1	2	3	4	5
a_n	6	18	54	162	486

A.) $f(n) = 3^{n-1}$ **B.)** $f(n) = 6^{n-1}$

C.) $f(n) = 3(6^{n-1})$ **D.)** $f(n) = 6(3^{n-1})$

22.) The 1st term in this sequence is 3

n	1	2	3	4	5
a_n	3	10	17	24	31

Which function represents the sequence?

A. $f(n) = n + 3$ **B.** $f(n) = 7n - 4$

C. $f(n) = 3n + 7$ **D.** $f(n) = n + 7$

23.) The points (0, 1), (1, 5), (2, 25), (3, 125) are on the graph of a function. Which equation represents that function recursively given $a_1 = 1$?

A. $a_n = a_{n-1} + 5$ B. $a_n = a_{n-1} - 4$

C. $a_n = 5a_{n-1}$ D. $a_n = a_{n-1} / 5$

24.) The graph of a function is shown on this coordinate plane.

Suppose we know the total number of cookies eaten by Rachel on a day-to-day basis over the course of a week:
3, 5, 7, 9, 11, 13, 15

10.) Is this linear or exponential?

11.) Fill in this table

x	1	2	3	4	5	6	7
y	3	5					

12.) Write the explicit equation for the number of cookies she ate.

13.) Write the recursive definition for the number of cookies she ate.

Vocabulary:

3, 5, 7, 9, 11, 13, 15 is called an **arithmetic sequence** because the y-values increase at a constant rate.

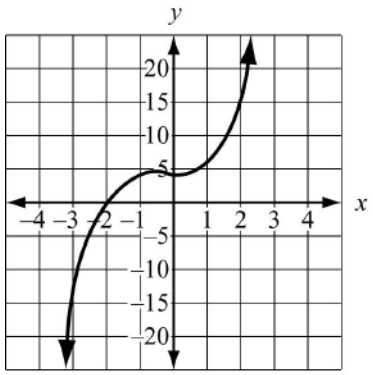
3, 6, 12, 24, 48, 96, 192 is called a **geometric sequence** because the y-values increase by a certain factor.

19.) The terms of a sequence increase by a constant amount. If the first term is 7 and the fourth term is 16:

a. Is the sequence arithmetic or geometric? List the first 6 terms.

b. What is the explicit formula for the sequence?

c. What is the recursive rule for the sequence?



Which statement best describes the behavior of the function within the interval $x = -3$ to $x = 0$?

A. From left to right, the function rises

B. From left to right, the function falls and then rises.

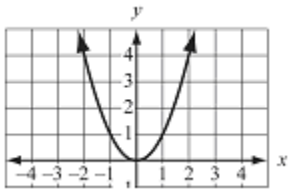
C. From left to right, the function rises and then falls.

D. From left to right, the function falls, rises, and then falls.

Part 6: Odd/Even Functions p. 108

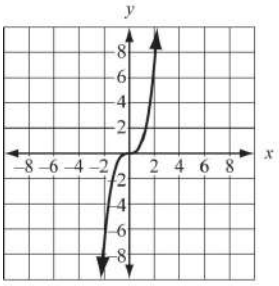
GRAPHS

$y = x^2$ is an example of an even function



Notice the graph is symmetrical with respect to the y-axis! I.E. It's the same on the left as it is the right of the y-axis.

$y = x^3$ is an example of an odd function



Notice if you were to turn in upside down, it would still look the same! I.E. It has rotational symmetry of 180°

Are these Odd/Even/Neither?

TABLES And FUNCTIONS

x	y
-2	4
-1	1
0	0
1	1
2	4

$y = x^2$ is EVEN

Notice -2 → 4

2 → 4

-2 and 2 give ya the same number

5.) What does f(x) = f(-x) mean?

x	y
-2	-8
-1	-1
0	0
1	1
2	8

$y = x^3$ is ODD

Notice -2 → -8

2 → 8

-2 and 2 give ya opposites of the same number

6.) What does -f(x) = f(-x) mean?

Determine if the following functions are even/odd/neither

7.) $f(x) = |x|$

8.) $f(x) = |x| + 2$

19.) For the function $f(x) = 3^x$ Is the function even, odd, or neither even nor odd? Explain.

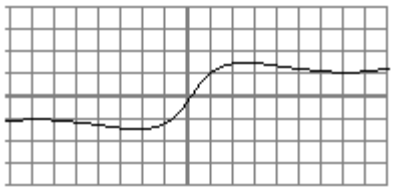
20.) If f is an even function and the point (-2, 7) is on the graph of f, what other point must be on the graph?

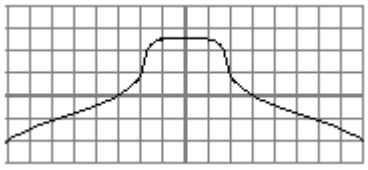
21.) If f is an odd function and the point (-2, 7) is on the graph of f, what other point must be on the graph?

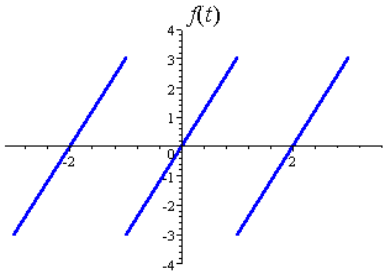
22) A function g is an odd function. If $g(-3) = 4$, which of the points lie on the graph of g?

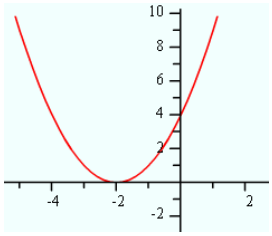
A. (3, –4 B. (–3, 4)

C. (4, –3) D. (–4, 3)

1.) 

2.) 

3.) 

4.) 

9.) f(x) = 5x – 7

10.) f(x) = $\frac{1}{2}x^2$

11.) f(x) = x^3

12.) f(x) = $x^3 + 2$

13) f(x) = $-2x^3 + 4x$

14.) f(x) = x^4

15.) f(x) = $x^4 - 3x$

16.) f(x) = $x^3 - 2x + 1$

17.) f(x) = sin (x)

18) f(x) = cos (x)

24.) Which statement is true about the function $f(x) = 2x$ being odd, even, or neither?

A. odd because $-f(x) = -f(x)$.
B. even because $-f(x) = f(-x)$.
C. odd because $f(x) = f(-x)$.
D. even because $f(x) = f(-x)$.

25.) Which statement is true about the function $f(x)=7$ being odd, even, or neither?

A. odd because $-f(x) = -f(x)$.
B. even because $-f(x) = f(-x)$.
C. odd because $f(x) = f(-x)$.
D. even because $f(x) = f(-x)$.

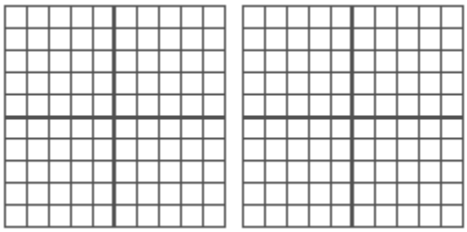
Part 7: Tranformations

$y = x^2$ is the quadratic parent function, a type of function you DON'T have to learn about in this class.

With help from your teacher (or a graphing calculator), graph all of the following:

Reflections over the x-axis flip the graph upside down

$y = x^2$ $y = -x^2$



Translations ← means "move" the graph up, down, left, or right

$y = x^2 + 2$ $y = x^2 - 2$

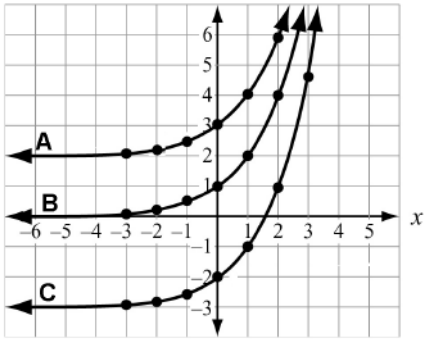
1.) Match the equation with the graph:

$y = 2^x$ _____ $y = 2^x - 3$ _____

$y = -2^x$ _____ $y = 2^x + 2$ _____

$y = (3)2^x$_____ $y = 2^{x-2}$ _____

$y = (\frac{1}{3})2^x$_____ $y = 2^{x+2}$ _____



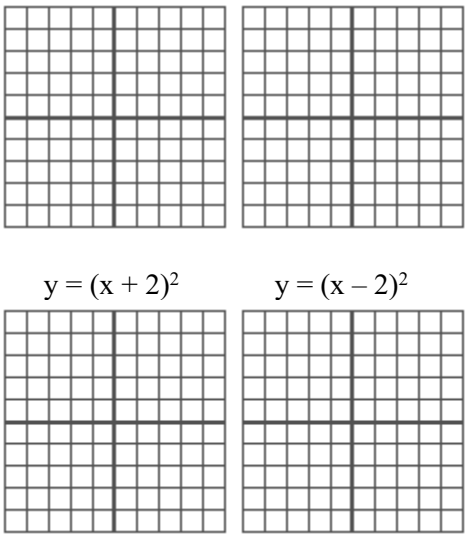
2.) Write the equation of the function $f(x) = 3^x$ after it has been reflected over the x-axis AND translated down three units.

3.) Write the equation of the function $f(x) = 5^x$ after it has been translated to the left 4 spaces AND down 7 spaces.

4.) Write the equation of the linear function f(x) = x after it has been reflected, translated down 2 spaces and stretched by a factor of 3.

5.) For the function $f(x) = 3x$:
a. Find the function that represents a 5 unit translation upward of the function.

b. Find the function that represents a 3 unit translation to the left of the function.

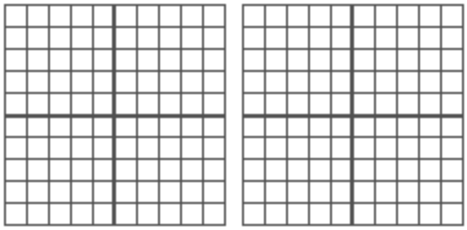


$y = (x + 2)^2$ $y = (x - 2)^2$

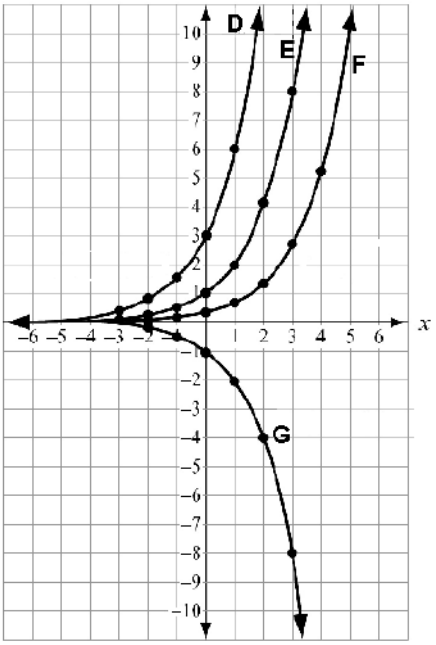
Stretches ← makes the graph skinny

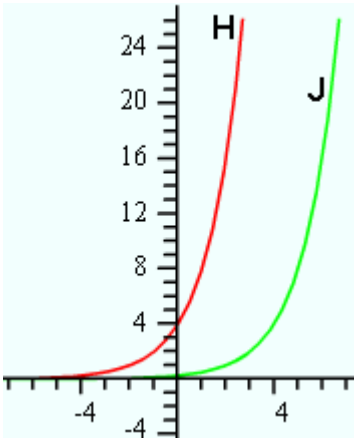
Shrink ← makes the graph fat

$y = 2x^2$ $y = \frac{1}{2}x^2$



Based on what you gathered about the quadratics we showed you, see if you can apply this to exponential & linear functions





6.) Given the function $f(x) = 3x + 4$:

a. Compare it to $3f(x)$.

b. Compare it to $f(3x)$.

c. Draw a graph of $-f(x)$.

d. Which has the fastest growth rate: $f(x)$, $3f(x)$, or $-f(x)$?

Part 8: Comparing Linear to Exponential

Write:
L-N if linear with a negative slope
L-P if linear with a positive slope
ED if it's exponential decay
EG if it's exponential growth

1.)

x	y
1	-18
2	-22
3	-26
4	-30

2.)

x	y
1	4
2	16
3	64
4	256

3.)

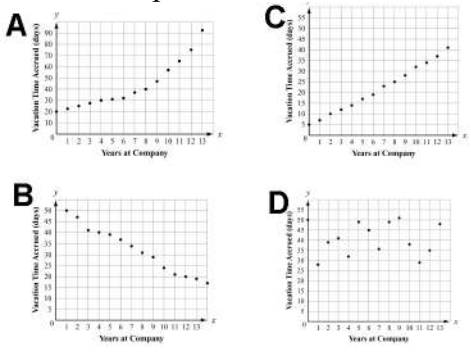
x	y
1	18
2	6
3	2
4	$\frac{2}{3}$

4.)

x	y
1	25
2	30
3	35
4	40

8.) The swans on Ellsworth Pond have been increasing in number each year. Feliciano has been keeping track and so far he has counted 2, 4, 7, 17, and 33 swans each year for the past five years.
a. Make a scatter plot of the swan population.

10.) Which of these scatter plots appears to be linear?
Which is exponential?



11.) Which graph shows a variable growth rate?

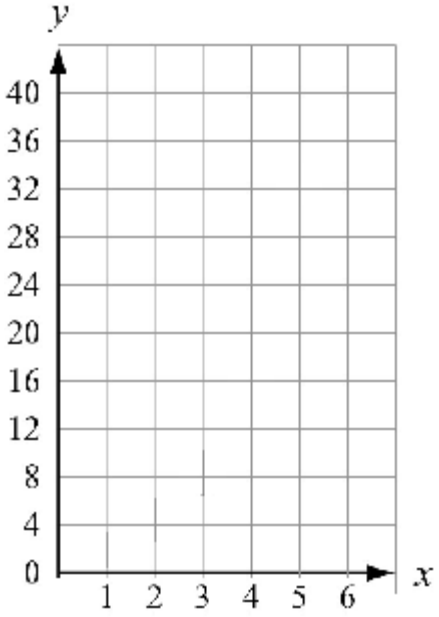
A.

x	0	1	2	3	4
y	5	6	7	8	9

5.) Based on a table, when is a function linear?

6.) Based on a table, when is the function exponential?

7.) Suppose you start work at $600 a week. After a year, you are given two choices for getting a raise: A) 2% a year, or B) a flat $15 a week raise for each successive year. How long would you have to work there for choice A to be the better choice?



b. What type of model would be a better fit, linear or exponential? Explain your answer.

c. How many swans should Felix expect next year if the trend continues? Explain your answer.

9.) Given: 7, 10, 13, 16, . . .
a. Does it appear to be linear or exponential?
b. Determine a function to describe the sequence.

c. What would the 20th term of the sequence be?

B.

x	0	1	2	3	4
y	0	-22	-44	-66	-88

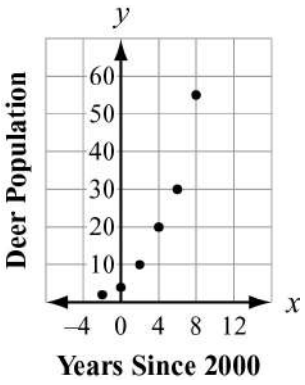
C.

x	0	1	2	3	4
y	5	13	21	29	37

D.

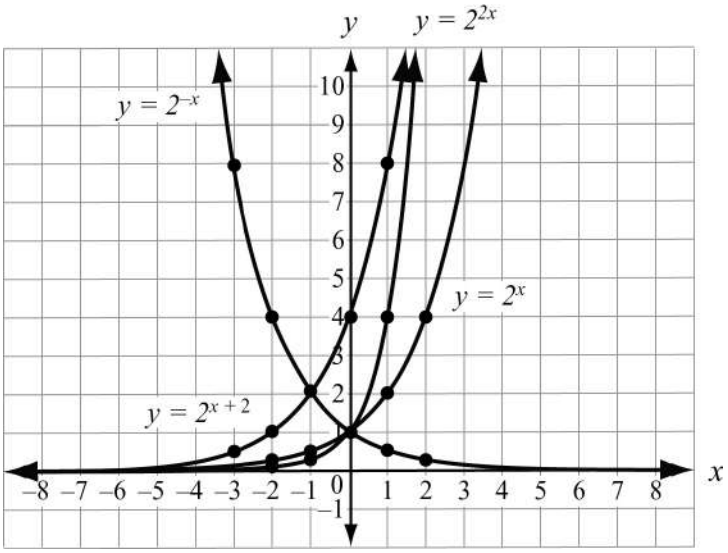
x	0	1	2	3	4
y	0	3	9	27	81

12.) Population growth rates, like the one shown here of the deer, are often _____.



A. Linear
B. Quadratic
C. Exponential
D. Absolute Value

Part 9: Interpreting Functions



1.) Compare the graph of $y = 2^x$ to the graph $y = 2^{x+2}$

2.) Compare the graph of $y = 2^x$ to the graph $y = 2^{2x}$

3.) Compare the graph of $y = 2^x$ to the graph $y = 2^{-x}$

4.) Write the equation of the function $f(x) = 5^x$ after each of the following transformations:

a.) vertical shift up 3 spaces

b.) vertical shift down 3 spaces

c.) horizontal shift left 3 spaces

d.) horizontal shift right 3 spaces

e.) reflection over the x-axis

f.) reflection over the y-axis

g.) vertical stretch by a factor of 3

h.) vertical shrink by a factor of 3

j.) horizontal stretch by a factor of 3

k.) horizontal shrink by a factor of 3

5.) Katherine has heard that you can estimate the outside temperature from the number of times a cricket chirps. It turns out that the warmer it is outside the more a cricket will chirp. She has these three pieces of information:

cricket chips 76 times a minute at 56°

cricket chips 212 times per minute at 90°

the relationship is linear

Estimate the function using the temperature is the dependent variable.

6.) Alice finds her flower bulbs multiply each year. She started with just 24 tulip plants. After one year she had 72 plants. Two years later she had 216. Find a linear function to model the growth of Alice's bulbs.

7.) Suppose Alice discovers she counted wrong the second year and she actually had 216 tulip plants. She realizes the growth is not linear because the rate of change was not the same. She must use an exponential model for the growth of her tulip bulbs. Find the exponential function to model the growth.

* The EOCT will sometimes call slopes and y-intercepts "parameters"

8.) If the parent function is $f(x) = mx + b$, what is the value of the parameter m for the curve passing through the points (–2, 7) and (4, 3)?

A. –9

B. $-\frac{3}{2}$

C. –2

D. $-\frac{2}{3}$