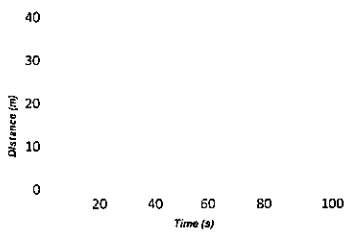
Week of: *1/23/17-1/27/17* **Name:**_____

ALGEBRA SPIRAL REVIEW

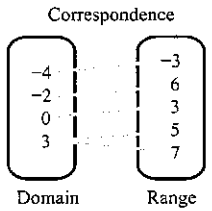
MONDAY

Label the graph of you walking to school:



Sketch a graph of the situation: you have to take you pet for an hour long walk.

Is the relation a function?



Use vertical line test to determine if the relation is a function.
(3,-2) (2,1) (4,3) (5,-3)

Write the numbers in scientific notation.
0.000006 _____
76,000,000,000 _____
60 _____ 7.3 _____
0.009 _____ 52634 _____

Write a rule for and complete the table.

IN	OUT
3	10
4	13
5	
	22
RULE	

Make a function table for the equation. **f(n)=-7x+3**

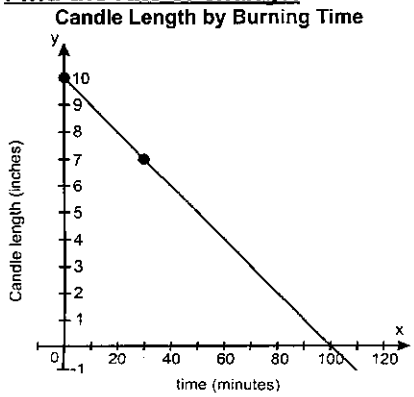
Find the next three terms of each sequence.
4,12,36,108..._____
18,9,9/2,9/4..._____
-2.20,-200,-2000..._____
⅓, 1 ⅓, 5 ⅓, 21 ⅓..._____

Determine if each sequence is arithmetic or geometric.
-8,-10,-12.5,-15.625..._____
1,⅖,4/25,8/125..._____
-10,-5,0,5..._____
5,1,-3,-7... _____

Write a rule for each sequence.
4,12,36,108..._____
18,9,9/2,9/4..._____
2,-8,32,-128... _____

TUESDAY

Find the rate of change.



_____

Find the slope of the line.
(10,9) (-5,2) _____
(4,-7) (18,-22) _____

Find the x and y-intercepts of the lines.
5y=2x-1 _____
10y=7x+9 _____

Write the equation in point-slope form.
m=8/2 (6,3) _____
(-5,9) (7,-3) _____

Simplify the expression.

$6s^{3} \cdot 2s^{6}y^{5}$ _____

$\frac{s^{2}}{s^{3}}$ _____ $\frac{r}{r^{-6}}$ _____

$7h^{6} \cdot 9h^{4} \cdot 3h^{3}$ _____

Write an equation of a line that is parallel.
y=5/10x+2; (2,3) _____
y=3/6x-5; (9,4) _____

Write an equation of a line that is perpendicular.
y=4x+6; (5,9) _____
y= 2/8x+5/9; (7,-6) _____

Simplify. Write your answer in scientific notation.

$\frac{3 \times 10^{-5}}{7.5 \times 10^{-2}}$ $\frac{3.4 \times 10^{-4}}{3.2 \times 10^{-5}}$

Find the next three terms in each sequence.
2,-8,32,-128... _____
1,-⅓,1/9,-1/27..._____

Write a rule for each sequence.
-2.20,-200,-2000..._____
1,4,16,64..._____

Find the first, fourth, eighth terms of each sequence.

$A(n)=2 \cdot 3^{n-1}$ _____

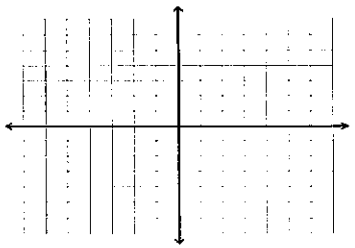
$A(n)=-1 \cdot 5^{n-1}$ _____

$A9n)=0.1 \cdot 4^{n-1}$ _____

WEDNESDAY

Solve by graphing.

y=5/2x+ 2 ; y=8x+4



Use a graphing calculator to solve:

1990	1980	1970	1960
12	18	190	37

_____

Solve.

$(4.4 \times 10^{3})(7.2 \times 10^{4})$ _____

$(5.4 \times 10^{4})^{-3}$ _____

Solve by substitution.

y=5x+3
3y+7x=53 _____

x=4y+7
7x-4y=1 _____

Solve by elimination.

-3x-9y=3
12x+9y=6 _____

8x + y = −16
−3x + y = −5 _____

Simplify each expression.

$\frac{3^{-3}}{5^{0}}$ _____

$\frac{7^{0}}{3^{5}}$ _____

Write in standard notation.

4.5×10^{-7} _____

3.75×10^{-2} _____

0.326×10^{-3} _____

804×10^{4} _____

Solve. Write your answer in scientific notation.

$(5 \times 10^{-6})(6 \times 10^{-4})$ _____

$(2.4 \times 10^{3})^{3}$ _____

Simplify each expression.

1. $\frac{c^{3}c^{-7}}{c^{5}}$
2. $\left(\frac{a^{3}}{m}\right)^{-4}$
3. $\frac{r^{-8}m^{2}}{m^{-3}}$
4. $c^{3}v^{9}c^{-1}c^{0}$
5. $h^{2}k^{-5}d^{3}k^{2}$
6. $9y^{4}j^{2}y^{-9}$
7. $(w^{3}k^{0}p^{-5})^{-7}$
8. $2y^{-9}h^{2}(2y^{0}h^{-4})^{-6}$
9. $(1.2)^{5}(1.2)^{-2}$
10. $(-3q^{-1})^{3}q^{2}$

11. If $n = -3$, which expression has the least value?
    A. $n^{2}n^{0}$ B. n^{n}
    C. $n^{8}n^{-5}$ D. $-n^{n}n^{-4}$

Write each number in scientific notation.

12. History There were about 62,041,000 votes cast for George Bush in the 2004 presidential election.

13. Pets More than 450,000 households in the United States have reptiles as pets.

THURSDAY

Solve

The school that Billy Sonje goes to is selling tickets to a choral performance. On the first day of ticket sales the school sold 3 senior citizen tickets and 1 child ticket for a total of $38. The school took in $52 on the second day by selling 3 senior citizen tickets and 2 child tickets. Find the price of a senior citizen ticket and the price of a child ticket.

_____

_

Senior citizen : _____
Child: _____

Solve

The admission fee at a small fair is $1.50 for children and $4.00 for adults. On a certain day, 2200 people enter the fair and $5050 is collected. How many children and how many adults attended?

_____

_

Children:_____
Adult:_____

Solve

Marquis works as a carpenter and as a blacksmith, he earns $20per hour as a carpenter and $25per hour as a blacksmith. Last week, Marquis worked both jobs for a total of 30 hours, and earned a total of $690.How long did Marquis work as a carpenter last week, and how long did he work as a blacksmith?

_____

_

Blacksmith:_____
Carpenter:_____

Is each number written in scientific notation? If not, explain.

14. 76×10^{-9}
15. 7.3×10^{5}
16. $4.05 \times 10 \times 10^{-8}$
17. 32.5×10^{13}

18. a. Astronomy The speed of light in a vacuum is about 186,300 mi/s. Use scientific notation to express how far light travels in one hour.
    b. At its farthest, Saturn is about 1.03×10^{9} mi from Earth. About how many hours does it take for light to travel from Earth to Saturn?

19. Use the sequence −32, 16, −8, 4, ...
    a. What is the common ratio?
    b. What are the next three terms?
    c. Write a rule for the sequence.
    d. What is the ninth term of the sequence?

20. You drop a ball from a height of 12 ft. Each bounce has $\frac{3}{5}$ the height of the previous bounce.
    a. Write a rule for the sequence. The initial height is given by the term $n = 1$.
    b. What height will the ball reach at the top of the fourth path ($n = 4$)?