



Anagha's Math

Anagha's Math Level 7- Week 10

We specialize in Advanced & School Level Math coaching for Grades: K- 12
 In-person & Online Math Group classes, Privates, Semi-Privates
 Our Mission: To educate, motivate and encourage every student to excel in mathematics.
 Email: admin@anaghasmath.com Website: <https://www.anaghasmath.com>
 Phone: (908)705-5397 & (425)830-9664
 Correspondence Address: 7040 Cascade Ave SE, Snoqualmie, WA 98065

Topics covered in class	Pages explained in class	Required Homework pages (2 Moola point)
*Review of concepts covered in the previous weeks	Difficult concepts from this packet will be reviewed in class and the rest of the packet is homework.	Full packet is required homework this week

Test 1 will be conducted during regular class next week.
 Use Answer-keys posted on Teams for Weeks 9 and 10. They are the review materials for Test 1

Test 1 Information:

- Test 1 in Week 11 during regular class. Study material in Weeks 9 and 10 packet.
- Sample test available for practice on Teams General channel during week 10.

For Online Students:

- Test link on Teams General channel. It will be Active only during class time.
- Latecomers may not complete the test. Tests that are submitted cannot be retrieved by us.
- Report cards will be posted on student channels by week 12.

For In-person Students:

- Paper test during regular class. Graded tests will be returned by week 12.

Moola Credits:

- Level K-5 (15 Moolas): \$5 Amazon Gift Card. Level 6-9 (15 Moolas): Five extra test points.

Make-up Tests and Other Test-related Information:

- Missed class, take the test in make-up class.
- At-home make-up/retake test link emailed to parents on Friday evening.
- Must be taken under parent supervision by Sunday night.
- Writing supplies are allowed for all levels.
- Grades K-6 Intermediate: No calculators, media devices, or reference materials.
- Grades 6 Adv-10: No media devices/reference materials, but calculators allowed.



"Success during a test depends on the preparation put in before the test."

**** GOOD LUCK TO ALL STUDENTS****

Teacher/ TA Homework Grading & Comments:

For In-Person student use only

STUDENT NAME: _____

Students, complete homework to the best of your ability & check work using the answer keys posted in TEAMS.

Has the student checked packet using Answer Key?	Required homework (1 Moola earned)	Extra credit homework (1 Moola earned)	Total Moolas earned this week.	Teacher/TA Name
Yes / No	Yes / No	Yes / No	0 1 2	



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About Us:

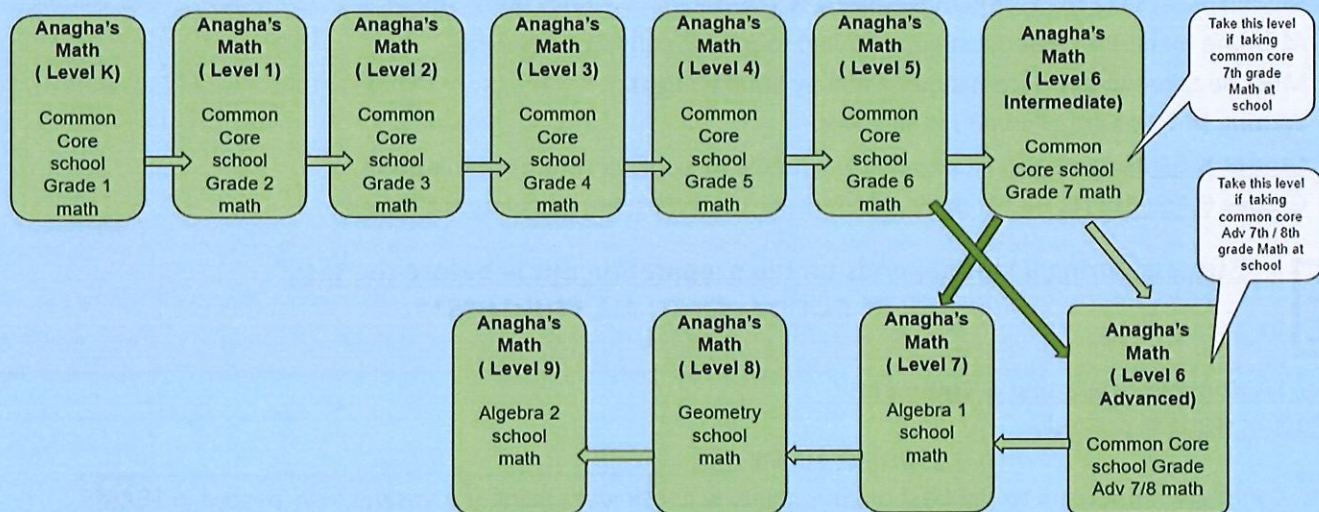
- We offer Advanced and School level math coaching to students from kindergarten to 12th grade.
- Classes are conducted In-person & online as small groups, private & semi-private tutoring throughout the year.
- Our teaching methodology and course curriculum enables students to learn mathematical fundamentals and concepts at their very foundations.
- This ensures a love for mathematics which then naturally flows into a successful school year with excellent grades.
- Anagha's Math Classes started with just a handful of students in Snoqualmie, WA. USA over 10 years ago.
- Today we have more than six hundred students nationwide and are still growing!
- The biggest compliment is our students continue with us over years till the end of the program.
- We are completely student-need focused and make our children be confident and independent Mathematicians!

Why our program is so effective?

- Our students develop lifelong critical thinking skills.
- Our curriculum not only meets common core requirements but also provides graduated challenges to those sharp eager minds!
- We are not dictated by any corporate office to deliver a set pattern of teaching material to our students.
- We have the flexibility to adapt our curriculum to match that of multiple school districts in USA.

Congrats to all our students! 95% of our students are in Advanced math at school.

Anagha's Math flowchart in comparison to school grades in USA



Program Highlights

- We offer in-person and online classes (Academic year and Summer programs).
- Unique one of a kind curriculum specifically designed to go beyond the needs of any school district in in United States.
- Our teaching style inculcated understanding on mathematics in a way that grows student confidence and ensures academic success.
- Experienced teachers who teach tips and tricks to mentally compute and/or solve problems in step by step manner.

Simplify

C1

$$(6y - 8) - 2(2y + 3)$$

C2

$$(3a^2 - 3a) - (2a^2 - 5/3)$$

C3

$$ab - 4\left(3ab + \frac{1}{2}\right)$$

a)

b)

$$(6y - 8) - 2 - (2y + 3)$$

$$\left(\frac{3}{2}a^2\right)(4a - 6)$$

$$(ab - 4) - (3ab + \frac{2}{5})$$

c)

$$6y - (8)(2y - 3)$$

$$\frac{3}{2} - a^2(4a - 6)$$

$$\frac{3}{2} - a^2 - (4a - 6)$$

7/10 - Pg 1

simplify

C1

C2

C3

a) $(2x+3)(-5x)$	$(2x) - (4x+7) - 2x^2$	$-7 - b^2 + (b^2 - 2b + 3)$
<input type="text"/>	<input type="text"/>	<input type="text"/>
b) $(2x+3)(-5) + 4x$	$(5x-3) - (-2x-4)$	$2b^2 - 7 + (b^2 - 2b - 3)$
<input type="text"/>	<input type="text"/>	<input type="text"/>
c) $(-2x)(4x+7) - 2x^2$	$-7b^2(2b^2 - b - 3)$	$2b^2 - 7(b^2 - 2b + 3)$
<input type="text"/>	<input type="text"/>	<input type="text"/>

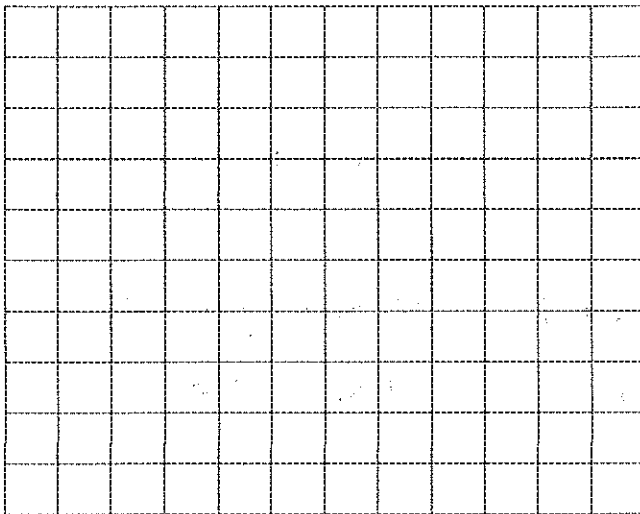
7/10 - Pg (2)

Draw Graphs for the following equations

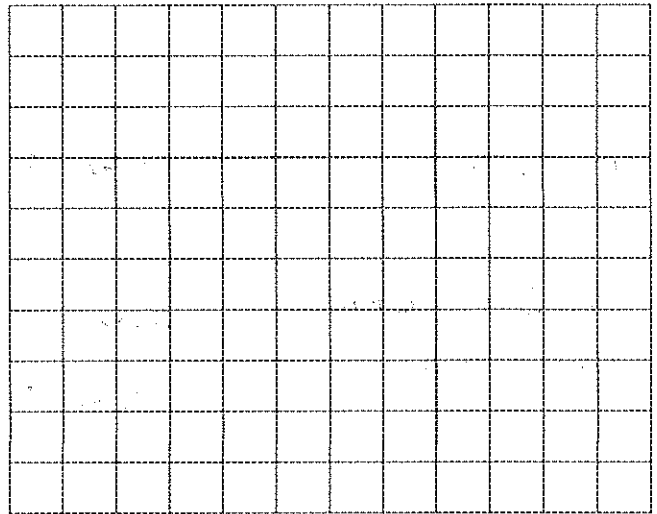
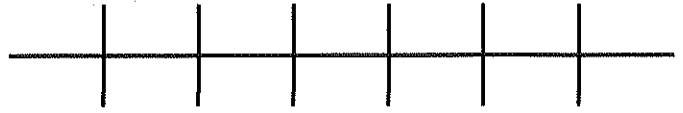
Column 2

a)

$$d(x) = \frac{1}{2}x - 3$$

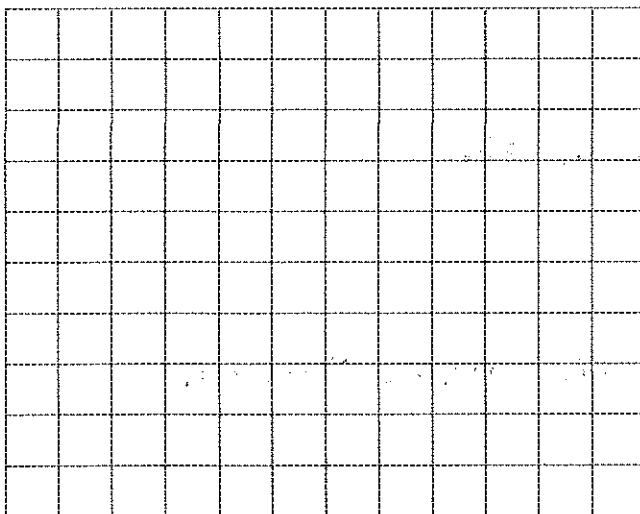
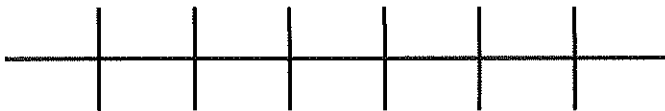


$$m(x) = 3 - 6x$$

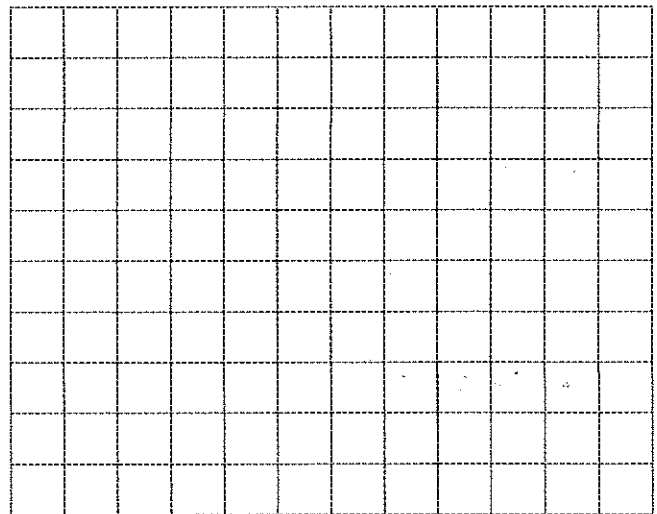


b)

$$y(x) = -4 + 7x$$



$$f(x) = -3x - 3$$



C3

Evaluate the function

a)	$m(x) = -1 - x + 5$ when $x = -2$	$f(x) = -\frac{3}{5} + 4x$ when $x = -1$	$b(x) = -0.5x + 18$ when $x = 5$
	$m(x) =$	$f(x) =$	$b(x) =$

Find the value of x so that the function has the given value.

b)	$m(x) = 4x + 15$ $m(x) = 7$	$f(x) = -\frac{4}{5}x + 7$ $f(x) = -5$	$g(x) = \frac{1}{2}x - 3$ $g(x) = -4$
	$x =$	$x =$	$x =$

c) Let $H(x)$ be the percent of U.S. households with Internet use x years after 1980. Explain the meaning of each statement.

$H(23) = 55$	$H(4) = K$
$H(27) \geq 60$	$H(17) + H(21) \approx H(29)$

26) Determine whether each relation represents a function.

a)

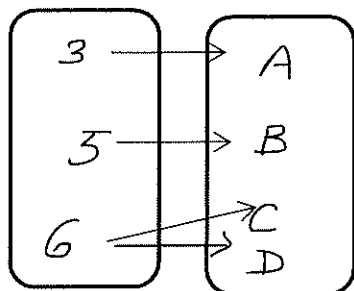
x	-3	-7	-4	2	7
y	3	1	7	6	7

Function / Not a function

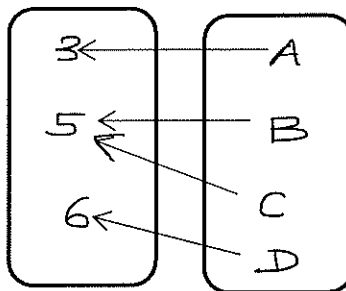
x	-3	-7	-4	-4	7
y	3	1	7	6	-7

Function / Not a function

b)

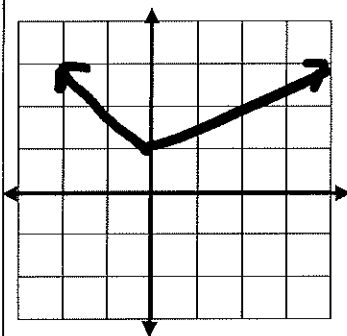


Function / Not a function

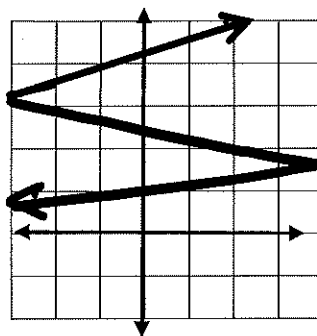


Function / Not a function

c)

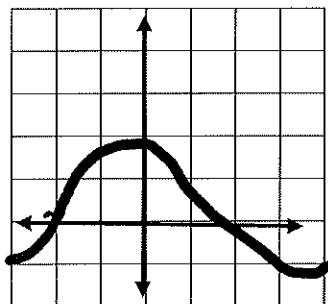


Function / Not a function

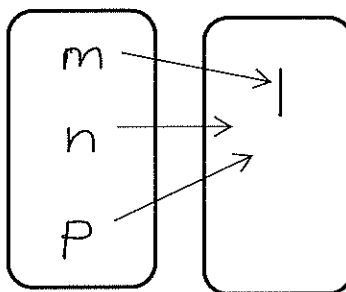


Function / Not a function

d)



Function / Not a function



Function / Not a function

e)

$(-4, -4)(-5, -5)(6, 6)(3, 3)$

Function / Not a function

f)

$(-3, 8)(6, 8)(5, 8)(-4, 8)$

Function / Not a function

23)	Find the slope and the y-intercept of the following lines			
a)	$2x - y = 7$ <table border="1" style="width: 100%; margin-top: 10px;"> <tr> <td style="width: 70%;"></td> <td style="width: 15%; text-align: center;">Slope</td> <td style="width: 15%; text-align: center;">Y intercept</td> </tr> </table>		Slope	Y intercept
	Slope	Y intercept		
b)	$2y + 3x = 9$ <table border="1" style="width: 100%; margin-top: 10px;"> <tr> <td style="width: 70%;"></td> <td style="width: 15%; text-align: center;">Slope</td> <td style="width: 15%; text-align: center;">Y intercept</td> </tr> </table>		Slope	Y intercept
	Slope	Y intercept		
c)	$4(x + y) = 16$ <table border="1" style="width: 100%; margin-top: 10px;"> <tr> <td style="width: 70%;"></td> <td style="width: 15%; text-align: center;">Slope</td> <td style="width: 15%; text-align: center;">Y intercept</td> </tr> </table>		Slope	Y intercept
	Slope	Y intercept		
24)	Find the slope of the line passing through the following set of points			
a)	$(-4, 0)(-5, -15)$ <table border="1" style="width: 100%; margin-top: 10px;"> <tr> <td style="width: 90%;"></td> <td style="width: 10%; text-align: center;">Slope</td> </tr> </table>		Slope	
	Slope			
b)	$(7, -9)(-2, -7)$ <table border="1" style="width: 100%; margin-top: 10px;"> <tr> <td style="width: 90%;"></td> <td style="width: 10%; text-align: center;">Slope</td> </tr> </table>		Slope	
	Slope			
25)	Find the value of the variable			
a)	$(5, y)$ and $(8, -9)$ if slope = 0 <table border="1" style="width: 100%; margin-top: 10px;"> <tr> <td style="width: 90%;"></td> <td style="width: 10%; text-align: center;">y =</td> </tr> </table>		y =	
	y =			
b)	$(x, -2)$ and $(-7, -9)$ if slope = 1 <table border="1" style="width: 100%; margin-top: 10px;"> <tr> <td style="width: 90%;"></td> <td style="width: 10%; text-align: center;">x =</td> </tr> </table>		x =	
	x =			

14) Solve the following absolute value equations

a)

$$|-9x + 6| + 7 = 19$$

$$-10 - 6|2x - 8| = -82$$

b)

$$2|4x - 1| = 3|4x + 2|$$

$$|8x + 4| = |8x + 5|$$

	Isolate the variable "x"	Isolate the variable "m"
1	$3y + 4x - 9 = 8$ <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;">$x =$</div> $\frac{4x}{3} = 2 + 3y$ <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;">$x =$</div>	$15m - 2n = 3 + 5m$ <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;">$m =$</div> $\frac{m}{3} + 3 = 9 - m + n$ <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;">$m =$</div>
2	$5(x+3) = 2y + 2x$ <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;">$x =$</div>	$5a + 12m = 3 + 2m$ <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;">$m =$</div>
3	$3y + 4x - 9 = 8$ <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;">$x =$</div>	$15m - 2n = 3 + 5m$ <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;">$m =$</div>

C2

Solve to find the value of the unknown (variable)

* Cross multiplying

1	$\frac{(3x-2)}{(2x+5)} = \frac{13}{15}$	$\frac{3x+5}{3-7x} = \frac{5}{3}$	<input type="text"/>
2	$\frac{(x-3)}{(x+5)} = \frac{1}{5}$	$\frac{(x-1)}{(2x-1)} = \frac{4}{9}$	<input type="text"/>
3	$\frac{(2x+3)}{(x-1)} = 3$		<input type="text"/>

7/10- Pg (9)

Solve to find the value of the unknown (variable)

* Cross multiplying

<p>1</p> $\frac{(x+2)}{(x-3)} = \frac{7}{2}$ <p>Cross multiply</p> $2(x+2) = 7(x-3)$ $2x+4 = 7x-21$ $\frac{-7x}{-5x} = \frac{21}{-25}$ $-5x+4 = 21$ $\frac{-5x+4=-21}{-4 \quad -4}{-5x = -25}$ <div style="border: 1px solid black; width: 50px; height: 30px; margin-left: auto; margin-right: auto; text-align: center;">x = 5</div>	$\frac{(x+1)}{(x-1)} = \frac{6}{5}$ <div style="border: 1px solid black; width: 50px; height: 30px; margin-left: auto; margin-right: auto;"></div>
<p>2</p> $\frac{(x+65)}{(x+15)} = \frac{3}{1}$ <div style="border: 1px solid black; width: 50px; height: 30px; margin-left: auto; margin-right: auto;"></div>	$\frac{(x+1)}{(2x+1)} = \frac{1}{3}$ <div style="border: 1px solid black; width: 50px; height: 30px; margin-left: auto; margin-right: auto;"></div>
<p>3</p> $\frac{(4x+2)}{(x-4)} = 2$ <div style="border: 1px solid black; width: 50px; height: 30px; margin-left: auto; margin-right: auto;"></div>	<div style="border: 1px solid black; width: 50px; height: 30px; margin-left: auto; margin-right: auto;"></div>

C2

7/10 - Pg (10)

Solve to find the value of the unknown

Column 1

$$\frac{(x-2)}{3} + \frac{5x}{2} = 6 - \frac{(x-5)}{6}$$

$$4\frac{1}{3} - \frac{(3x-4)}{5} = \frac{(x-7)}{3}$$

Column 2

$$\frac{(5x-7)}{4} - \frac{(2x-5)}{3} = \frac{5x}{6}$$

$$6-13x \leq 4-12x$$

a)

b)

7/10

-Pg

11

Solve to find the value of the unknown

$$\frac{(x+7)}{3} > 1 + \frac{(3x-2)}{5}$$

$$\frac{2}{3}(x-3) = 1 - \frac{5}{6}(3x-4)$$

$$3x-5 \geq \frac{2}{3}x + 9$$

$$\frac{(y-4)}{5} + \frac{(y+2)}{2} = 10$$

7/10 - Pg (12)

15) Solve the inequalities

a $12(2x + 3) \geq 3(9 + 7x)$

b $\frac{4}{5} < 3k - \frac{11}{5}$

c $-3 < 2x - 5 < 7$


d $(8x - 3) > 4(2x + 3)$

e $|4x - 5| < 0$

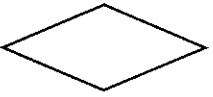
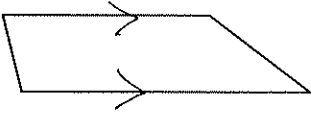
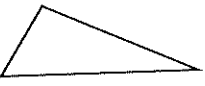
f $3|2x + 5| - 8 \geq 19$

16)	The solution set of $ 2x - 5 \leq 11$ is	<input type="text"/>
17)	The solution set of $ 4x + 8 > 16$ is	<input type="text"/>
18)	The sum of 4 consecutive even numbers is 324. Find the smallest number.	<input type="text"/>
19)	The sum of 4 consecutive odd numbers is 432. Find the largest number.	<input type="text"/>
20)	The sum of 4 consecutive odd numbers is 904. Find the largest number.	<input type="text"/>
21)	What is the GCF of $36a^3$, $48ab^2$, 24	<input type="text"/>
22)	What is the LCM of $36a^3$, $48ab^2$, 24	<input type="text"/>

27)	Solve for y: $21y + 14 = -98$	<input type="text"/>
28)	Solve for x: <i>x over 72 equals 60 over 96.</i>	<input type="text"/>
29)	Find the sum of the numerator and denominator when the sum of six-fifths and five-fourths is reduced.	<input type="text"/>
30)	How many square centimeters are in two-and-one-fourth square meters?	<input type="text"/> Sq cm
31)	The average of A and B is C, and the average of C and 10 is 12. If A is 4, what is B?	<input type="text"/>
32)	It takes six workers twelve hours to paint a warehouse. How many hours would it take eight workers to paint the same warehouse?	<input type="text"/> Hours
33)	Jenna reads at a rate of $\frac{2}{3}$ rd page per minute. How many minutes will it take her to read a 288-page book?	<input type="text"/>

34)	What is the slope of the line connecting the points $(5, -8)$ and $(7, 4)$?	<input type="text"/>
35)	What is the slope of the line that goes through the points $(1, 3)$ and $(-2, 4)$?	<input type="text"/>
36)	What is the slope of the line given by the equation three X plus five Y equals thirty-nine?	<input type="text"/>
37)	What is the slope of the line containing the points two comma three and seven comma one?	<input type="text"/>
38)	When one-sixth of the sum of 34 and 20 is multiplied by one half of the sum of 3 and 5, what is the product?	<input type="text"/>
39)	What is the reciprocal of the sum of one-third and one-sixth?	<input type="text"/>
40)	<p>If the sum of two angles in a triangle is 132 degrees, what is the degree measure of the third angle?</p> 	<input type="text"/>

41)	Evaluate: 3 raised to the fourth power, divided by 6 raised to the third power. Express your answer as a reduced common fraction.	<input type="text"/>
42)	Solve: $\frac{10}{z+4} = \frac{30}{2z+3}$	z = <input type="text"/>
43)	22 percent of 99 equals 99 percent of what number?	<input type="text"/>
44)	What is the next term in the sequence 4, 5, 7, 11, 19, 35, 67, ___	<input type="text"/>
45)	What is the sum of all of the positive multiples of 11 less than 100?	<input type="text"/>
46)	When a number is added to the sum of 83 and 91, the result is equal to the product of 38 and 19. What is the number?	<input type="text"/>
47)	The sum of 4 consecutive even numbers is 1204. What is the largest number?	<input type="text"/>

48)	The sum of 4 consecutive even numbers is 1376. What is the smallest number?	<input type="text"/>
49)	What is the area in square units of a rhombus with diagonals of 10 and 13 units? 	<input type="text"/>
50)	What is the area, in square inches, of a trapezoid with two bases of length 5 inches and 15 inches with a height of 11 inches? 	<input type="text"/>
51)	What is one-tenth of the greatest common factor of 148 and 12?	<input type="text"/>
52)	The three angles of a triangle are $12x + 4$ degrees, $11x + 2$ degrees, and $6x$ degrees. What is x ? 	<input type="text"/>
53)	Three angles of a triangle are $3x + 5$ degrees, $4x + 6$ degrees, and $7x + 1$ degrees. What is the value of x ?	<input type="text"/>
54)	When x equals 3, what is the value of x squared, plus 17 times x , plus 35?	<input type="text"/>

55) Between which two integers does the square root of 85 lie?

_____ and _____

56) Between which two integers does the square root of 185 lie?

_____ and _____

57) Between which two integers does the square root of 300 lie?

_____ and _____

58) Starbucks has caffeinated tea and decaffeinated tea. It served 54 caffeinated teas and 18 decaffeinated teas. What percentage of the teas served were caffeinated?

59)

Boxed of Girl scout cookies sold	
Day	Boxes of cookies
Sunday	28
Monday	16
Tuesday	18
Wednesday	20
Thursday	26

A Girl Scout troop recorded how many boxes of cookies they sold each day for a week. According to the table, what was the rate of change between Tuesday and Thursday?

Boxes per day

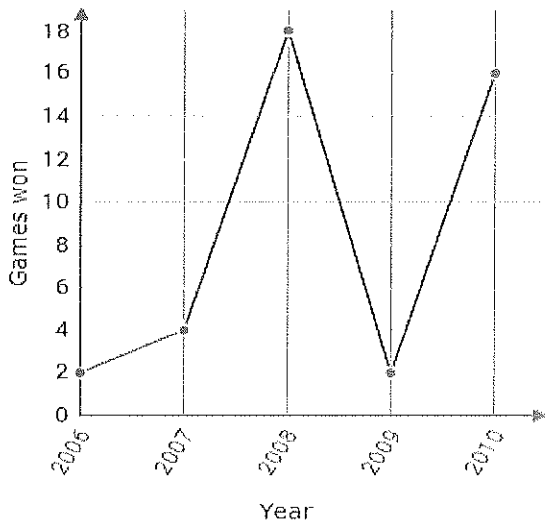
60)

The graph shows how the number of pies Ben can bake is related to the number of additional cups of sugar he buys. What is the rate of change?

Pies per cup of sugar

61)

Hockey games won by Lewis High



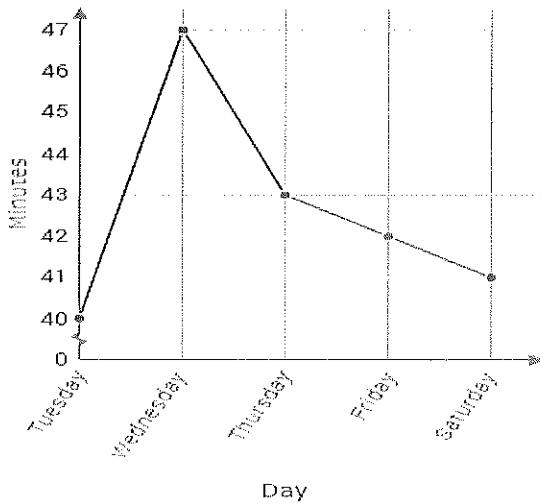
A pair of Lewis High School hockey fans counted the number of games won by the school each year.

According to the graph, what was the rate of change between 2008 and 2010?

 Games per year

62)

Time Ronnie spent on homework



Ronnie kept track of how long it took to finish his homework each day.

According to the graph, what was the rate of change between Thursday and Saturday?

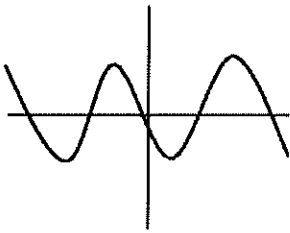
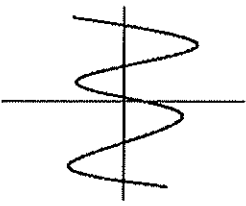
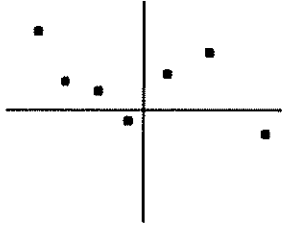
 Minutes per day

63) Mr. Boone bought a block of fudge that weighed $2\frac{1}{3}$ rd of a pound. He cut the fudge into 3 equal pieces. What was the weight of each piece of fudge?

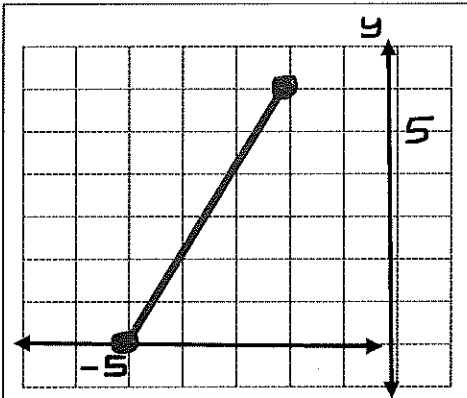
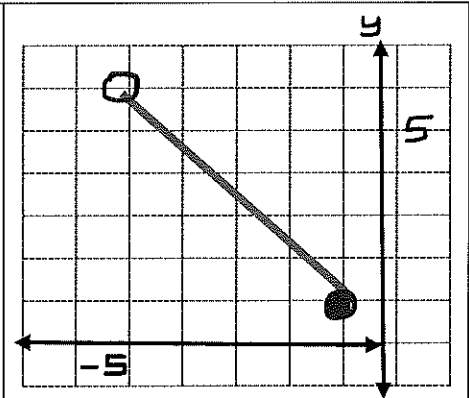
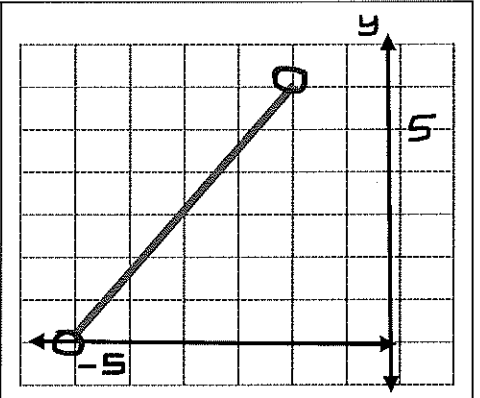
64) A pizza restaurant used its final $2\frac{1}{5}$ th of a liter of pizza sauce to make some pizzas. They put $\frac{1}{4}$ of a liter of sauce on each pizza. How many pizzas did they make?

65)	<p>Choose the correct answer: Write as an algebraic expression. n decreased by 22 is less than or equal to 9</p> <p>A) $\frac{22}{n} \leq 9$ B) $22 - n \leq 9$ C) $n - 22 \leq 9$ D) $2n \leq 9$</p>
66)	<p>Choose the correct answer: Write as an algebraic expression. the quotient of v and 3 is greater than 36</p> <p>A) $\frac{3}{v}$ B) $\frac{v}{3} > 36$ C) $\frac{3}{v} > 36$ D) $v + 3 \leq 36$</p>
67)	<p>Solve the equation. Remember to check for extraneous solutions. $\frac{x-3}{3x} = \frac{1}{3} + 1$</p> <p>A) $\{-2\}$ B) $\left\{-\frac{2}{3}\right\}$ C) $\{-6, -2\}$ D) $\{-1\}$</p>
68)	<p>When you reverse the digits in a certain two-digit number you increase its value by 54. Find the number if the sum of its digits is 12.</p> <p>A) 28 B) 39 C) 21 D) 42</p>
69)	<p>Find the slope of a line parallel to each given line. $-y + \frac{4}{3}x = -2$</p> <div style="text-align: right; border: 1px solid black; width: 150px; height: 60px; margin-left: auto; margin-right: 0;"></div>
70)	<p>Solve each equation. $-x + 7 + 2 = 15$</p> <div style="text-align: right; border: 1px solid black; width: 300px; height: 40px; margin-left: auto; margin-right: 0;"></div>

71)	Solve: $\frac{2x+3}{3} - \frac{3x-2}{4} = 1$	<input type="text"/>
72)	My dog ran across the width of my lawn at seven meters per second. If she took nine seconds to cross, how many meters wide is my lawn?	<input type="text"/> Meters
73)	The second angle of a triangle is 3 times as large as the first angle. The third angle is 30 degrees more than the first angle. Find the measure of the smallest angle of the triangle.	<input type="text"/>
74)	The sum of three consecutive counting numbers is 126. What is the largest number?	<input type="text"/>
75)	What is the Y intercept of the line: $4x - 3y = 4$	<input type="text"/>
76)	What is the X intercept of the line: $5x - 2y = 7$	<input type="text"/>
77)	A rectangular sheet of plywood is $4\frac{1}{2}$ feet wide and $6\frac{1}{2}$ feet long. What is the area of the sheet of plywood? Write your answer as a decimal.	<input type="text"/>

1)	List the domain and range $\{(1, -9), (10, -5), (8, 3), (7, 6), (5, 5)\}$.		
	Domain		Is this relation a function? Yes / No
	Range		
2)	List the domain and range $\{(3, -7), (-9, -4), (3, 3), (7, -9), (5, 5)\}$		
	Domain		Is this relation a function? Yes / No
	Range		
3)	List the domain and range $\{(3, -7), (-7, -4), (-3, 3), (7, 5), (2, 5)\}$		
	Domain		Is this relation a function? Yes / No
	Range		
4)	Is the following graph a function?		
			
	Yes / No	Yes / No	Yes / No
5)	Which of the following sets of ordered pairs represent a function? $A = \{(0, -2), (1, 4), (-3, 3), (5, 0)\}$ $B = \{(-4, 0), (2, -3), (2, -5)\}$ $C = \{(-5, 1), (2, 1), (-3, 1), (0, 1)\}$ $D = \{(3, -4), (3, -2), (0, 1), (2, -1)\}$		
6)	Consider the function $g = \{(2, 5), (0, 6), (5, 8), (-3, 7)\}$, Find the value of		
	$g(0) =$	$g(5) =$	$g(\underline{\hspace{2cm}}) = 7$
	$g(\underline{\hspace{2cm}}) = 5$		
7)	Write the equation of the line in the standard form		
	The line passes through point $(6, 1)$ and slope is (-3)	The line passes through points $(4, -3)$ and $(3, -6)$	

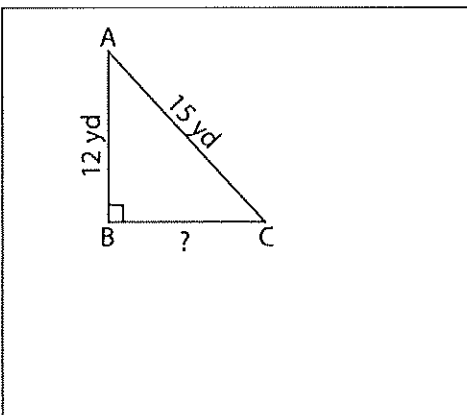
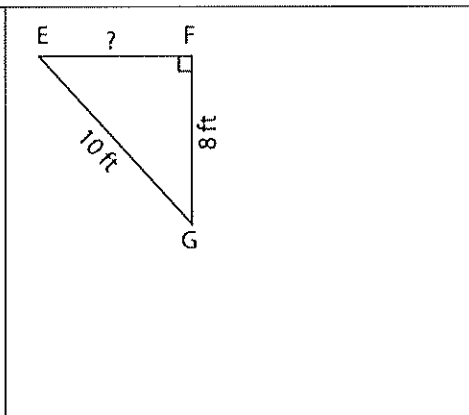
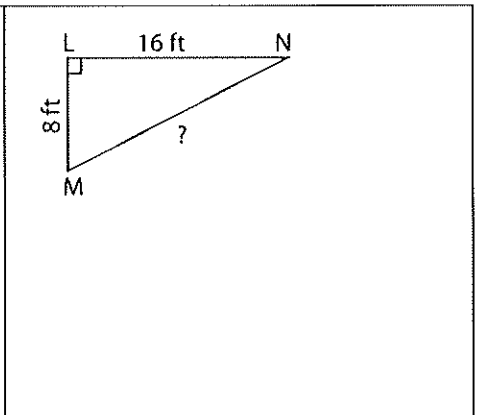
8) Determine the Domain and Range of each of the following graphs:

		
Domain	Domain	Domain
Range	Range	Range

9) Write the equation of the line in the slope intercept form

The line passes through point (3,2) and is perpendicular to the line with equation $2x + y = 1$	The line passes through point (1, -1) and is perpendicular to the line with equation $3x + y = 5$

10) Find the length of the missing side to the nearest whole number (Hint: Use Pythagorean Theorem)

		
$BC =$	$EF =$	$MN =$