Name: June 1 Key

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CC Algebra Review Homework

Monday

Solve $m = \frac{h-w}{8}$ for the variable *h*.

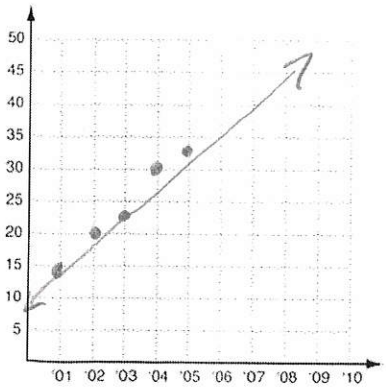
$8m = h - w$

$+w \quad +w$

$8m + w = h$

Make a scatter plot of the data table. Sketch a line of best fit.

Year	1	2	3	4	5
Cars Sold	15	20	23	30	34



Calculate the correlation coefficient in the problem above and describe it as strong positive, weak positive, strong negative, weak negative or no correlation.

$r = .99397843 99$

Strong positive

Write the equation of a line in slope intercept form that contains the points (3,–3) and (1, 4).

$m = \frac{-3-4}{3-1} = \frac{-7}{2}$

$y = mx + b$

$4 = -\frac{7}{2}(1) + b \rightarrow b = 7.5$

$4 = -7/2 + b$

$y = -7/2x + 7.5$

Tuesday

Factor the following:

a) $20b^2 - 4b$

$4b(5b - 1)$

b) $25 - x^2$

$(5 - x)(5 + x)$

c) $x^4 + 4x^2 + 4$

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

The population of the city of Auburn GA can be modeled by $f(x) = 7{,}583 \cdot 0.96^x$.

1. What does the value "x" probably stand for?

time

2. What is the meaning of the 0.96?

rate of change

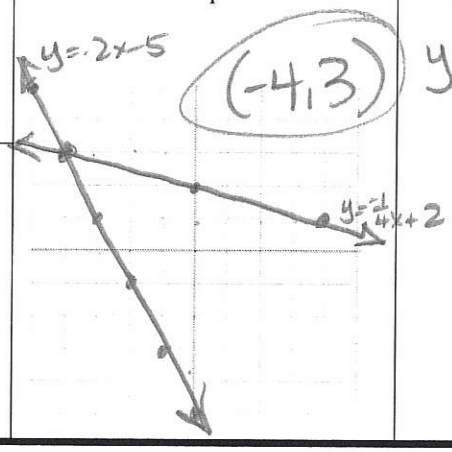
3. What does the 7,583 tell us?

initial population

Solve the following system of equations by graphing:

$y = -2x - 5$

$y = -\frac{1}{4}x + 2$



Wednesday

Solve the equation for *r*.

$C = 2\pi r$

$\frac{C}{2\pi} = \frac{2\pi r}{2\pi}$

$\frac{C}{2\pi} = r$

Determine which function has the highest average rate of change over the interval x = –1 to x = 2.

$f(x) = 3x + 2$

$f(2) = 8$

$f(-1) = -1$

$\frac{f(2) - f(-1)}{2 - -1} = \frac{8 - -1}{3} = 3$

X	–1	0	1	2
Y	3	2	3	6

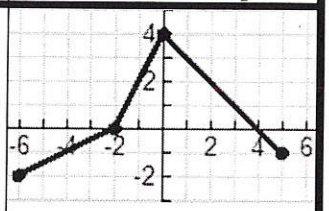
$\frac{f(2) - f(-1)}{2 - -1} = \frac{6-3}{3} = 1$

$f(x) = 3x + 2$

Write an exponential function $y = ab^x$ whose graph passes through the points (3, 1080), (5, 38880)

$y = 5(6)^x$

Thursday



a) Determine the x and y intercepts of the function.

x-int: $x = 4, -2$

y-int: $y = 4$

b) Determine the interval at which this function is increasing and decreasing

Inc: $[-6, 0]$

Dec: $[0, 5]$

Determine if (3,13) is a solution to the system

$\begin{cases} y = x + 10 \\ y = 2^x + 5 \end{cases}$

$13 \stackrel{?}{=} 3 + 10$ ✓

$13 = 2^3 + 5$ ✓

yes

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Name: _____ **CC Algebra Review Homework**

	Boys	Girls
Pancake	31	34
Waffle	36	44
Biscuit	18	26

What % of everybody that was surveyed were Girls? $\frac{104}{189} = 55\%$

How many people chose waffle as their favorite? $80/189$

How many more girls liked pancakes than girls who liked biscuits? 8

What percentage of the boys liked pancakes? $\frac{31}{85} = 36\%$

What percentage of the people who liked pancakes were boys? $31/189 = 16.4\%$

Solve each quadratic (factoring, quadratic formula or completing the square).

$x^2 + 5x = 24$

$x^2 + 5x - 24 = 0$

$(x+8)(x-3) = 0$

$x = -8 \quad | \quad x = 3$

Use the functions

$f(x) = x^2 + 2x + 5$

$g(x) = 5x - 1$

for the following:

a) $f(x) + g(x)$

$x^2 + 2x + 5$

$+ 5x - 1$

$x^2 + 7x + 4$

b) $g(x) - f(x)$

$(5x-1) - (x^2 + 2x + 5)$

$5x - 1 - x^2 - 2x - 5 =$

$-x^2 + 3x - 6$

c) $g(x)^2$

$(5x-1)^2 = (5x-1)(5x-1)$

$25x^2 - 5x - 5x + 1$

$25x^2 - 10x + 1$

Solve the system

$8x - 8y = -8$

$-8(x - 3y = 13)$

$8x - 8y = -8$

$-8x + 24y = -104$

$16y = -112$

$y = -7$

$x - 3(-7) = 13$

$x + 21 = 13$

$x = -8$

Write a simplified expression for the area of the shaded region below

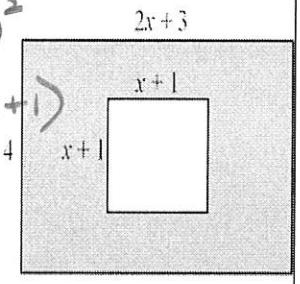
$(2x+3)(x-4) - (x+1)^2$

$(2x^2 - 5x - 12) - (x^2 + 2x + 1)$

$2x^2 - 5x - 12$

$-x^2 - 2x - 1$

$x^2 - 7x - 13$



A researcher is researching the number of minutes waiting in line (x) versus the number of people ahead of you in line (y) at a local amusement part. She derives the equation y=4.36x+11.49 to model this relationship. What does the 11.49 and the 4.36 mean in the context of the problem?

My Progress

MONDAY	TUESDAY	WEDNESDAY	THURSDAY
# of questions _____	# of questions _____	# of questions _____	# of questions _____
# correct _____	# correct _____	# correct _____	# correct _____
I need more help with... _____	I need more help with... _____	I need more help with... _____	I need more help with... _____