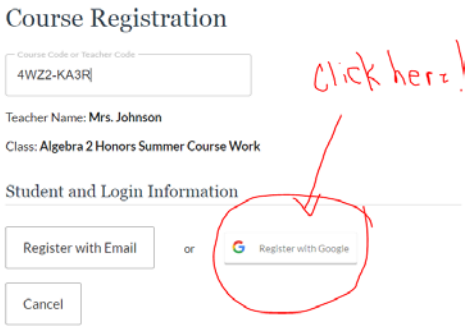
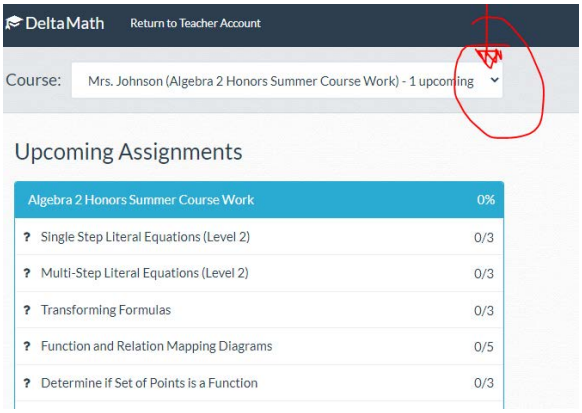
Hello Future Algebra 2 Honors Students,

Algebra 2 honors is a challenging and quickly paced course that will **require** you to have mastered specific Algebra 1 skills. Expectations will be high. The attached worksheet contains problems displaying the skills necessary to be successful in Algebra 2 Honors. Please hold yourself accountable for the mastery of these skills.

IF YOU HAVE INTERNET & ANY TYPE OF DEVICE
(You can access on a phone too however it can sometimes be tedious trying to graph.)

Your task this summer is to complete a review on https://www.deltamath.com/. This link will register you into the Algebra 2 Summer Work Review. Sign in/Register using your School Google Sign in Option. If you have used Deltamath.com with a previous teacher, you may need to click on the dropdown course menu to change classes. See images below. You are required to show mastery by completing 3 correct problems per skill. You have three chances per problem but will also get a new problem in order to earn your 3 correct problems. If you have never used Deltamath.com, please view this short tutorial video. The beauty of Deltamath.com is the ability to earn 100% mastery. There are worked out examples (Sometimes you will need to click show next example to find the one that matches your problem type.) and Video tutorials.





NO INTERNET OR DEVICE DURING SUMMER
Alternatively, if you do not have Internet or device access this summer, your task this summer is to neatly complete all the assigned questions on the following worksheet packet on a separate sheet of paper with **all of your work shown**. No credit will be given to assignments that are turned in containing only answers. When you return to school, you will register for your Deltamath.com account and will have to complete a Deltamath.com assignment to show mastery of your summer learning. The answer key to the packet has been provided so that you can check your comprehension of each skill. You also will find on the last pages links to videos you can use as a resource if you do not understand any of the questions/concepts.

All students will be assessed on this Algebra 1 material within the first two weeks of your Algebra 2 Honors class. Students will be expected to execute similar type problems without answers provided.

The flow of next year will be dependent on your ability to use algebra 1 skills, critically think, and walk into class with confidence knowing you have put in quality time over the summer. If you find yourself struggling with the summer work, please consider placement into Algebra 2 CP where more time will be given for review and less depth of material will be covered.

Looking forward to seeing you next school year.

Sincerely, SOA Algebra 2 Honors Teachers

Name_____

Summer Work – Algebra 2 Honors

Directions- Please complete the following questions on a separate sheet of paper. Be sure to show all of your work. Reference the video tutorials, as needed.

Solve the equation for x.

1. $\frac{\sqrt{x+4}}{2} = \frac{3}{\sqrt{x+4}}$
2. $\frac{1}{4}x + \frac{1}{2} = \frac{3}{4}x + \frac{1}{3}$
3. $7x - 2yx = z$
4. $|2x+7| \le 14$ and graph the solution.
5. $|3x+2| > 5$
6. $x^2 + 5x + 4 = 0$
7. $7xy + 4 = z$
8. $3(x+5) - (5x-2) = 5(2x-7)$
9. $8 - 3x \le 13$

Solve the system.

10. $\begin{aligned} 4x+3y &= 11 \\ 2x-2y &= 2 \end{aligned}$
11. $\begin{aligned} y &= -5x+3 \\ 2x-y &= 11 \end{aligned}$
12. $\begin{aligned} 3x+2y &= 9 \\ 4x-6y &= -14 \end{aligned}$

Evaluate for $f(x) = -2x^2 - 4x$.

13. $f(-2)$
14. $f(x-1)$

Simplify.

15. $\sqrt{\frac{48}{5}}$
16. $\frac{16a^{-2}bc^{-3}}{\left(4ab^3\right)^{-2}}$
17. $(2x-3)^2$
18. $\left(x^2-5x+4\right)(2x-9)$
19. $\sqrt{54}$
20. $\frac{4-4^2 \div 8 \bullet 3+6}{3-(1+1)^2}$

Factor.

21. $2x^2 - 11x - 21$
22. $x^3 + 6x^2 + 5x$
23. $6x^2 - x - 15$

Solve for the distances.

24. Find the distance between (5,3) and (6,9).
25. Find the leg of a right triangle with hypotenuse of 17 cm and a leg of 8 cm.

Find the equation of the line using the given information.

26. Find equation in point-slope form of line with slope=-4 and through (2,-6).
27. Perpendicular to $6x-2y=8$ through the point (-9,-2)
28. Parallel to $y=-\frac{2}{3}x+7$ through the point (-3, 4)
29. Through points (3, 1) and (2,4)

Graph the following.

30. $6x+3y=9$
31. $3x-y=2$

Find the x and y intercepts.

32. $3x-5y=15$
33. $y=x^2+7x+6$

Solve the following problems.

34. A parking attendant charges a different rate for cars than trucks. It costs $10.75 to park 3 cars and 2 trucks. It costs $12.25 to park 7 cars and 1 truck. How much does it cost to park a single car? A single truck?
35. Hair grows on your head faster than any other place on your body. Sue was interested in figuring out how fast her hair grows so she measured the growth. After 15 days her hair grew 3 millimeters. After 50 days, it grew 10 millimeters. If hair growth can be represented by a linear relationship, then
    a. Write a function for the growth G(x) as a function of x=number of days.
    b. How long did it take Sue's hair to grow 17 millimeters?

Summer Work Answer Key – Algebra 2 Honors

Directions – Use this document to check your answers. If you have an incorrect answer, go back and attempt to find your mistake. If you cannot find your error, watch a tutorial to assist with understanding the concept.

1) $x = 2$

2) $x = \frac{1}{3}$

3) $x = \frac{z}{7-2y}$

4) $x \le \frac{7}{2}, x \ge \frac{-21}{2}$

5) $x > 1 \text{ or } x < \frac{-7}{3}$

6) $x = -4, x = -1$

7) $x = \frac{z-4}{7y}$

8) $x = \frac{-13}{3}$

9) $x \ge \frac{-5}{3}$

10) $2, 1$

11) $2, -7$

12) $1, 3$

13) $f(-2) = 0$

14) $f(x-1) = -2x^2 + 2$

15) $\frac{4\sqrt{15}}{5}$

16) $\frac{256b^7}{c^3}$

17) $4x^2 - 12x + 9$

18) $2x^3 - 19x^2 + 53x - 36$

19) $3\sqrt{6}$

20) -4

21) $(2x+3)(x-7)$

22) $x(x+5)(x+1)$

23) $(3x-5)(2x+3)$

24) $\sqrt{37}$

25) $b = 15$

26) $y + 6 = -4(x-2)$

27) $y = \frac{-1}{3}x - 5$

28) $y = \frac{-2}{3}x + 2$

29) $y = -3x + 10$

#30 and 31 will be given in class

32) $x\text{int} = 5$
$y\text{int} = -3$

33) $x = -6, x = -1$

34) $car = \$1.25$
$truck = \$3.50$

35) $a) G(x) = \frac{1}{5}x + 0$
$b) 85 days$

Tutorials for Summer Work Assignment - Algebra 2 Honors

How do you add, subtract, multiply & divide fractions?

https://www.youtube.com/watch?v=fWBFHUFmBZk

https://www.youtube.com/watch?v=T3D9z6lUldM

https://www.youtube.com/watch?v=DP-3VU3LuDg

How do you solve an equation?

https://www.youtube.com/watch?v=4grXNGukIUM

How do you solve for a specified variable?

https://www.youtube.com/watch?v=-P-LYIq50no

http://virtualnerd.com/pre-algebra/inequalities-multi-step-equations/formulas/formula-isolate-variable/isolate-variables-in-terms-of-variables

How do you solve an absolute value problem?

https://www.youtube.com/watch?v=wE3Us-d5KJo

How do you solve an inequality?

https://www.youtube.com/watch?v=0X-bMeIN53I

How do you solve absolute value inequalities?

https://www.youtube.com/watch?v=iI_2Piwn_og

How do you evaluate functions?

https://www.youtube.com/watch?v=ilq-h6pCkGs

What order of operations should I use?

https://www.youtube.com/watch?v=rPZlAbmORqE

https://www.youtube.com/watch?v=AoAiItPsGwM

How do you find the greatest common factor (GCF)?

https://www.youtube.com/watch?v=3jGAcpK2V7Q

https://www.youtube.com/watch?v=dac80Wea_Pg

How do you factor trinomials?

https://www.youtube.com/watch?v=yJ4xcQBJGhc

https://www.youtube.com/watch?v=AMEau9OE6Bs

How do you factor to find zeros?

https://www.youtube.com/watch?v=SDe-1lGeS0U

How do you create a line given two points?

https://www.youtube.com/watch?v=ddwHeXd40u4

How to find x & y intercepts of a line?

https://www.youtube.com/watch?v=wPs0tjl8Vpg

How do you graph a line in slope-intercept form?

https://www.youtube.com/watch?v=kgD48XXVT1c

How do you graph a line in standard form?

https://www.youtube.com/watch?v=MVDtL7GCJmk

How do you graph a system of equations?

https://www.youtube.com/watch?v=QN1JTmb_7dg

How do you solve a system using substitution?

https://www.youtube.com/watch?v=KNwwu5wjcaA

How do you solve a system using elimination?

https://www.youtube.com/watch?v=H9PgnVV1i04

How do you solve a word problem using a system of equations?

https://www.youtube.com/watch?v=irmRokbkCe8

https://www.youtube.com/watch?v=pHE5nvx14ko

How do you evaluate given negative numbers?

https://www.youtube.com/watch?v=qB5PZzmjenI

https://www.youtube.com/watch?v=HTMpHTPwkxc

How do you classify numbers?

https://www.youtube.com/watch?v=-QHff5pRdM8