

Helloooooo Integrated Math 7 student (or, as you will now be known, AAH student),

I pulled up the letter I sent last year's 7th-into-8th-graders and realize SO much needs to be modified to account for our "unusual" Spring, 2020.

One thing that has nothing to do with the Covid-19 crisis is that the name of our class is changed: you are now officially Algebra 1 students. To be specific, Accelerated Algebra Honors (AAH! students). (Wait til 9th grade when you become Accelerated Geometry Honors - AGH students, Agh!)

As I look back at what we were and were not able to do between March and June, I think there are two super-important concepts that I want you to bring into September:

- Solving linear equations in one variable
- Working with linear functions (two variables)

These were both big topics during the year, so it's possible that you'll sail through this assignment with no problem. Chances are, you'll have a question or two along the way. Feel free to consult your own resources (help from a parent or older sibling, Google a topic) or reach out to me for help with a topic or locating good videos or notes.

1. By June 17, 2020, I will have placed you into a new Schoology class for the summer, called Accelerated Algebra H Summer 2020. This is where you will go to find:
 - a. an additional copy of this assignment, if you lose this one.
 - b. announcements, updates or corrections
 - c. information about extra resources or the Desmos assignment
 - d. answers to these problems (posted toward the middle of the summer)
2. Work these problems.
3. Compare your responses with mine. Don't just check answers; make sure you are showing sufficient work. The specific steps don't need to be exactly like mine, but you should be showing similar amounts of work.
4. If you have any questions or concerns at this point, you or your parents can email me.
5. Since we do not know what school will look like in September, I cannot announce specifics regarding an assessment on these skills just yet. As soon as I can, I will email and post information in Schoology about how we'll be assessing your mastery of these two big topics. If the summer work went smoothly for you, you should not be worried about this assessment. The purpose of the summer work is to prepare you for the assessment

6. If a student does not show mastery on this assessment, I will set up a parent-student conference.

Once again, if you have any questions along the way, please do not hesitate to get in touch with me. I will be checking my school email - rhekker@nyackschools.org - regularly and will get back to you quickly. Even if you don't have questions or problems, I'd love to hear from you.

As you know, this assignment is a requirement for being in Accelerated Algebra Honors. Although it won't be checked directly, your performance on the September assessment will give me a good indication of the skills you are bringing to 8th grade.

I hope you have a terrific summer vacation -

- Ms. Hekker

PS: Please see the next page for information about supplies for class next year

This is what I sent last year, and I expect that we WILL be returning to school at some point, so this is what you'll need *eventually*.

Supply list for Accelerated Algebra Honors class

Must have: 3-ring binder (it's ok to share it with other classes)
Paper
Pencils and sharpener (or mechanical pencils)

Nice to have: Ruler (6 inches is fine) for graphing straight lines
Graph paper*
Calculator**

*Graph paper and calculators will always be available for use in class. I expect that any graph assigned for homework will be done on graph paper, so it may be nice to keep a supply at home. Alternatively, students can take a sheet or two with them in class to use for homework.

As far as calculators go: 8th grade will be using graphing calculators. It is **not necessary to purchase a graphing calculator, although if you will be taking math throughout high school, it is a nice investment. I will expect all students to have access to a scientific/graphing calculator for homework purposes, whether it's an actual calculator or an "app" on a computer or phone.

As I get more information about how we will start in September, I'll let you know what you'll need.

I definitely need to figure out a solution for graph paper and a graphing calculator; I'll likely be researching online options over the summer.

Solve each linear equation

1) $8c + 2 = 6$

2) $\frac{3}{5}p - 4 = 26$

3) $2(z - 6) = 14$

4) $\frac{1}{4}(3m + 1) = 2 - \frac{1}{6}(3 - 2m)$

5) $8z - (6z - 5) = 1$

6) $2(b - 4) = 4(2b + 1)$

7) $3(4x - 1) - 2 = 17x + 10$

8) $(x + 2) - (3x - 2) = x + 3$

9) $\frac{2x+1}{3} = \frac{6x-9}{5}$

10) $\frac{a}{2} + \frac{a}{3} + \frac{a}{4} = 26$

11) $\frac{7y}{12} - \frac{1}{4} = 2y - \frac{5}{3}$

12) $\frac{3x+1}{4} = \frac{44-x}{5}$

Tell whether each table shows a constant rate of change. If it does, state the slope.

13)

x	y
2	3
3	6
4	9
5	12

14)

x	y
-5	-4
-2	-7
1	-10
4	-13

15)

x	y
1	11
2	8
5	-1
10	-16

16)

x	y
-2	-8
0	-2
4	4
10	13

17)

x	y
-5	4
-1	8
2	7
0	3

18)

x	y
6	11
9	13
12	15
15	18

Answer the questions about this situation: A swimming pool is being filled with a hose. The depth of the water in feet, y , can be modeled by the equation $y = .4x + 2$, where x is the number of hours the hose has been running.

19) What is the slope of the equation?

20) Explain what the slope means, in context.

21) What is the y-intercept of the equation?

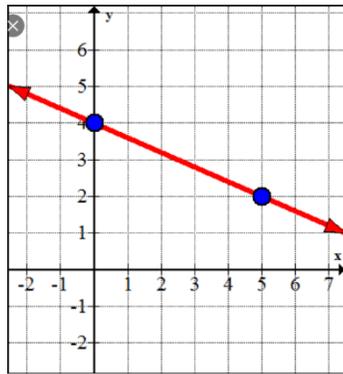
22) Explain what the y-intercept means, in context.

For each linear relationship shown below, identify the slope and the y-intercept.

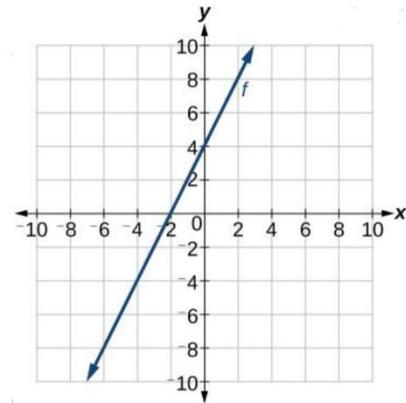
23) $y = \frac{3}{5} - \frac{2}{3}x$

24) $y = 2x - 4$

25)



26)



27)

x	y
-5	-6
1	2
10	14

28)

x	y
0	2
1	4
3	8

Write the linear equation of the line passing between each pair of points

29) (0, -1) and (6, 8)

30) (-2, -5) and (-1, -2)

For questions 31 – 36, go to student.desmos.com and enter activity code JYTGTA

Use the following information to answer questions 37 – 42

Abi loves to make cookies. In fact, she only ever makes the exact same recipe over and over. She keeps her flour in a bin and knows that after making 4 batches of cookies, there are 9 cups of flour in the bin. She then makes 3 more batches of cookies and sees that there are now $2\frac{1}{4}$ cups left in the bin.

37)

Let x represent the number of batches of cookies and let y represent the number of cups of flour remaining in the bin.

Write two ordered pairs (x, y) to represent the information given in the problem.

39)

What is the constant rate of change in this problem?

41)

Write an equation to model how many cups of flour are in the bin, y , after x batches of cookies have been made.

38)

Which words in the problem tell you that Abi is using the flour at a constant rate?

40)

How many cups of flour are in the bin before making any cookies?

42)

Use your equation to determine how many batches of cookies it takes to get the full bin down to $\frac{3}{4}$ full.

Recall that lines that are parallel have the SAME slope and lines that are perpendicular have slopes that are NEGATIVE RECIPROCALs of each other (if you've forgotten what a *negative reciprocal* is, Google it!).

Write the equation of a line that.....

43)

is parallel to $y = 2x - 4$ and has a y -intercept of 7

45)

is parallel to $y = \frac{3}{5}x + 7$ and passes through the point $(-5, -5)$

47)

is perpendicular to $y = \frac{2}{3}x - 4$ and passes through the point $(2, 1)$

44)

is parallel to $y = -3x$ and passes through the point $(6, 0)$

46)

is perpendicular to $y = 2x - 4$ and has a y -intercept of 7

48)

is perpendicular to $y = -x$ and passes through the point $(2, 1)$