

Mrs. Curry's PreCalculus – Summer Packet 2021 - 2022

You will need to access your Pre- Calculus summer work packet either through Google classroom or through the school website. The packet will be posted on google classroom by June 1, 2021. To enroll in the 2021 Math Summer Work Class, you will need to add a class and use the code z37k2wz. Summer work for all Mrs. Curry's classes are posted here, so make sure you access the correct assignment for the class you are entering.

Entering into PreCalculus means entering into your first year of college preparatory mathematics. There is a major shift in expectation for students to be able to recall many skills at a moment's notice. Certain concepts that have been taught to you over the previous years are assumed to be mastered. If you do not have these skills, you will find that you will consistently get problems incorrect next year as you make mistakes. It is frustrating for students who spend much of their homework time relearning algebra concepts in addition to learning how to tie the concept's together. This summer packet is intended for you to brush up and possibly relearn these topics.

On the following pages, you have assorted problems related to specific topics. You need to copy down each problem and show the work that you use to arrive at the answer. Keep your work **neat and organized**. Rather than give you a textbook to remind you of the formulas and techniques necessary to solve the problem, there are a few websites listed that have full instructions on the techniques. If and when you are unsure of how to attempt these problems, use these websites. Don't fake your way through these problems. You are only setting yourself up for a future struggle.

Realize also that many concepts are interrelated. This will be the focus throughout next year as we examine the mathematical relationships between topics numerically, algebraically and graphically. While you may be strong in one of these approaches, you must learn to view each topic from the other two approaches as well to achieve full understanding. Success on your tests and quizzes throughout the year will depend on you being able to do so.

You need to get off to a good start so spend some quality time on this packet this summer. Each problem should be copied onto a separate sheet of paper and all work must be shown when needed. Please use graph paper when graphing or print the pages containing graphs so that you have a coordinate plane to keep your work neat and organized. Also, do not rely on the calculator to work through the majority of these problems. You will be tested without the calculator, so practice without the calculator.

This packet is to be completed by the first day back in school in the fall. You will be tested over this material on the second day of class. You will also be expected to efficiently work through the problems under a time constraint. Many students are not prepared for this expectation and find they do not have the time to check their answers like they are used to. Prepare accordingly.

It is a mistake to decide to work this packet at the start of the summer. Let it go until mid-summer. We want these techniques to be relatively fresh in your mind in the fall. But, do not wait to do them at the very last minute. These take time. If you do a few concepts a day, the whole packet will take you about a week to complete.

I hope you take this seriously as I sincerely wish for you to be successful throughout this next year. Your preparation over the summer will be rewarded in unexpected ways during the year. Should you have any questions regarding this packet over the summer, Mrs. Curry will be available to answer your questions

via email (jcurry@barbertonschools.org). When you ask your question, please let me know what steps you have taken on your own so I may give you better guidance to solve that problem. You can even send a picture of the work you have done.

Good luck! I look forward to seeing you in the fall!

Here are few resources to help you if you get stuck. Study groups are also a great way to learn and review. Get together with a few friends and discuss problems that you are having trouble with.

<https://www.khanacademy.org/?scrlybrkr=50dbb717>

<http://patrickjmt.com/>

<https://www.wolframalpha.com/>

Summer Work (Part 1)

Date _____ Period _____

Solve each equation.

1) $4(1 + 8x) = 6(6 + 6x)$

2) $2(1 + 6k) = 2k + 4(8 + 2k)$

3) $-3(m - 8) = -2(3m - 3)$

4) $4(2 - 4x) = 6(-3x + 6)$

5) $-8(1 + 2r) = -4(3r + 6)$

6) $-4(b - 7) = -4(5 + 5b)$

7) $3(1 - 5n) = -4(n + 2)$

8) $2(-4v + 5) - v = 4 + 3(4v + 2)$

9) $-4(1 + 3n) = -(4 - 6n)$

10) $3(2 + 7x) = 5(1 + 4x)$

11) $5m^2 - 24m + 13 = 4 - 2m^2$

12) $48n^2 - 296n + 341 = 8n^2 + 5$

13) $5a^2 + 19a - 10 = -6$

14) $-5m = -3m^2 + 12$

$$15) 2v^2 = 7 - 5v$$

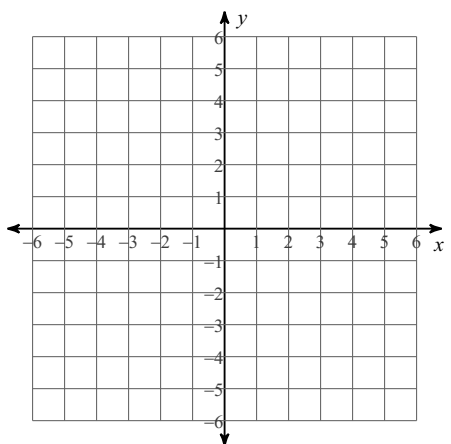
$$16) 11r^2 - 36r = 6r - r^2$$

$$17) -38 - 102v = -18v^2 - 2$$

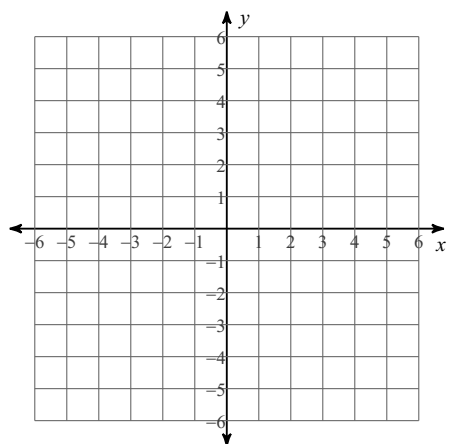
$$18) 2b^2 + 7b - 12 = 3$$

Sketch the graph of each line.

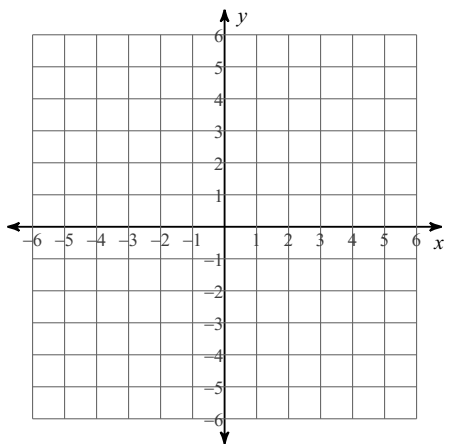
$$19) y = x + 5$$



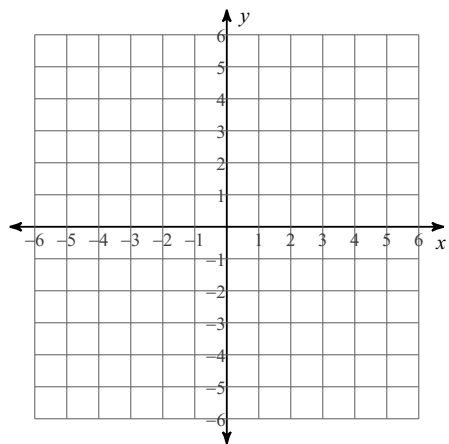
$$20) 0 = -4 - x$$



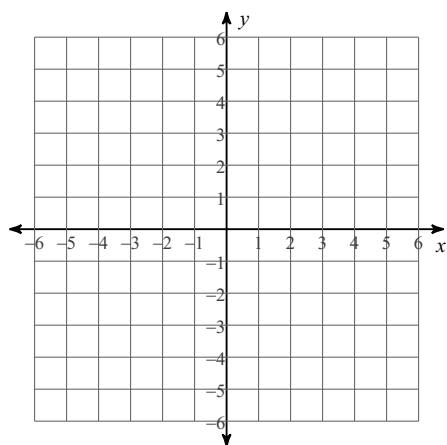
$$21) -2y - 6 = -x$$



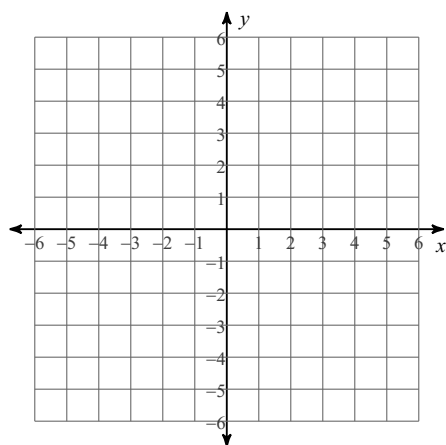
$$22) -4x = -5y$$



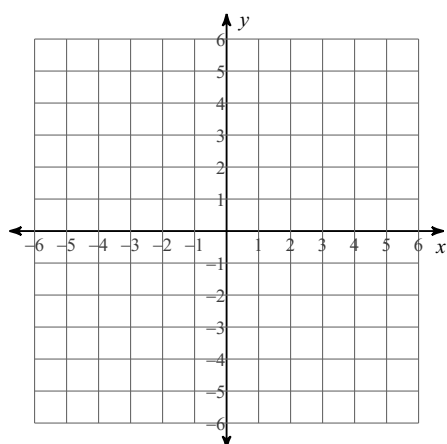
23) $0 = 5x + 2 + y$



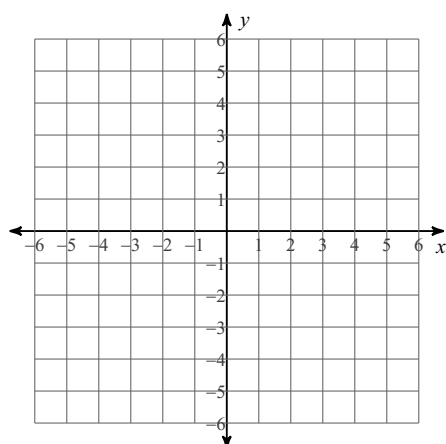
24) $12 = -3y + 7x$



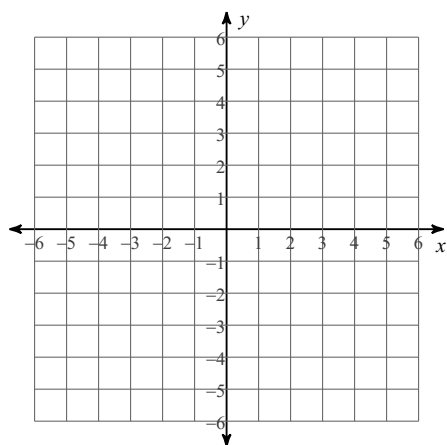
25) $0 = -4x - 6 - 3y$



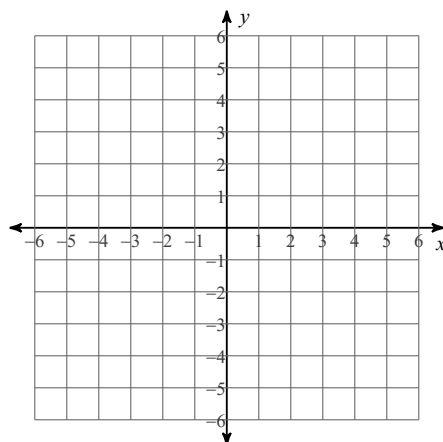
26) $-x = -y - 1$



27) $0 = 1 + y$

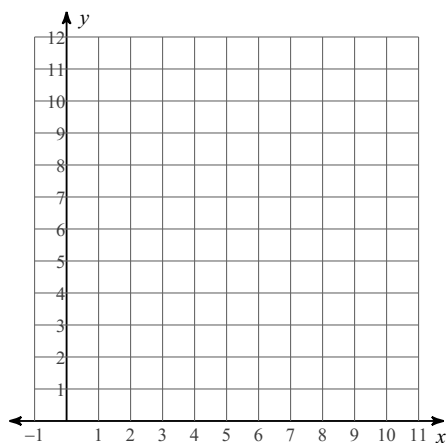


28) $-1 - \frac{4}{3}x = -y$

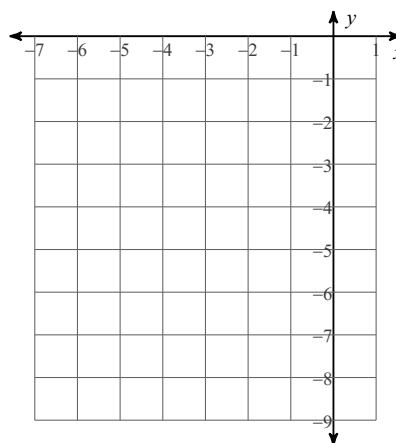


Sketch the graph of each function.

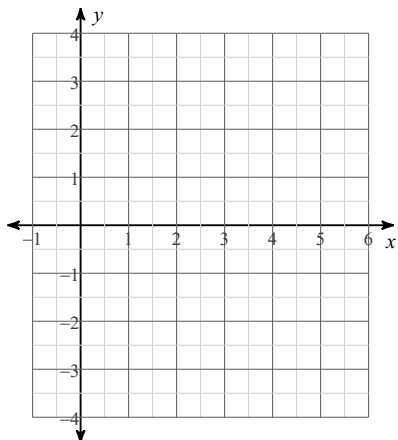
29) $y = 2x^2 - 12x + 21$



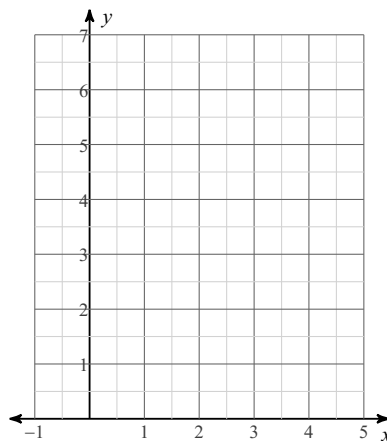
30) $y = -x^2 - 2x - 5$



$$31) y = \frac{1}{2}x^2 - 4x + 7$$



$$32) y = x^2 - 4x + 6$$



Write the slope-intercept form of the equation of the line through the given point with the given slope.

$$33) \text{ through: } (-1, 2), \text{ slope} = 2$$

$$34) \text{ through: } (-4, 5), \text{ slope} = -\frac{1}{2}$$

$$35) \text{ through: } (5, 4), \text{ slope} = 1$$

$$36) \text{ through: } (-3, -2), \text{ slope} = 1$$

$$37) \text{ through: } (5, -4), \text{ slope} = -\frac{2}{5}$$

$$38) \text{ through: } (-1, 1), \text{ slope} = -5$$

Write the slope-intercept form of the equation of the line through the given points.

$$39) \text{ through: } (0, 3) \text{ and } (4, -4)$$

$$40) \text{ through: } (-1, -1) \text{ and } (1, -2)$$

41) through: $(-5, -3)$ and $(1, -1)$

42) through: $(0, 4)$ and $(-5, -4)$

43) through: $(1, -1)$ and $(0, 4)$

44) through: $(2, -3)$ and $(0, -3)$

Write the slope-intercept form of the equation of the line described.

45) through: $(-2, -4)$, parallel to $y = \frac{5}{2}x$

46) through: $(0, 2)$, parallel to $y = 3x - 1$

47) through: $(-3, 3)$, parallel to $y = -\frac{7}{3}x + 5$

48) through: $(-5, 1)$, parallel to $y = \frac{1}{5}x + 3$

49) through: $(-4, 4)$, perp. to $y = \frac{4}{5}x - 1$

50) through: $(5, -4)$, perp. to $y = \frac{5}{8}x - 3$

51) through: $(-1, -4)$, perp. to $y = \frac{1}{3}x + 2$

52) through: $(-3, -3)$, perp. to $y = -2x + 1$