Timberlane Regional High School

Summer Packet 2019-2020

The purpose of this summer work is to help prepare you for your upcoming math class. The work will tap into your prior knowledge and review past content, concepts, and skills. Our expectation is that you arrive on the first day of school able to demonstrate mastery of the material in this packet. In order to achieve this, please allow yourself plenty of time to work on the problems, use your resources (such as the review materials provided, Khan Academy, or the math faculty here at the school during the summer to specifically *help with the summer work (July 15– Aug 15th on Tues and Wed from 8:30 to 10:30 by appointment)*), and work each problem to completion.

You will use Khan Academy to complete the summer work for Algebra 2 CCP. This work will be due on **Thursday, September 5th and Friday, September 6th,** and will be 3% of your first quarter grade. 10% will be deducted for each day it is late. Summer work will not be accepted after Sept. 12th. Each math problem in the packet will be graded as follows:

Summer Work Assignments	Grading	Evidence	Perseverance
Khan Academy (found on page 2)	Two points will be awarded for each correct answer in a row. (See page 2 for more details.)	Students will complete five problems in a row correctly per each topic assigned.	Students have an infinite amount of problems to attempt on Khan Academy. If students are struggling, they can access helpful videos on Khan and/or example problems.
In the event you do not have access to technology, you may complete the Written Packet (found on page 3 to 22)	Two points will be awarded for the correct answer.	Students will complete five problems correctly per topic.	Students will show their work when solving a problem. If they are struggling, they will seek out extra help.

Your teacher might choose to give a non-graded assessment on the first week of school in order to target remediation strategies and requirements.

A note from your Algebra 2 CCP teacher:

This packet will help you to sharpen your skills and be ready for the first day of the 2016-2017 school year. These problems shouldn't take too long. HAVE A GREAT SUMMER!!!!

Timberlane Regional High School

Khan Academy – YOU MUST LOG IN TO HAVE KHAN ACADEMY GIVE YOU CREDIT FOR YOUR WORK.

How to Log Into Khan Academy to complete your summer work:

- If you do not have an account yet:
  1. Go to khanacademy.org.
  2. Click on Start Learning Now.
  3. Click on Sign in with Gmail.
  4. Create an Account with your timberlane email account.
  5. Type in the Search Engine the topic you need to complete ***or*** click on the link provided.
- If you have an account already with your gapps email from last school year signups:
  1. Go to khanacademy.org.
  2. Click on the log in button on the top right hand side of the screen.
  3. Try to Log in with your email and password. You may have to update your new email from Timberlane OR just create a new account with your up-to-date Timberlane email account.
  4. Type in the Search Engine Bar the topic you need to complete ***or*** click on the link provided.

Summer Work Topics for Algebra 2- **YOU MUST LOG IN TO HAVE KHAN ACADEMY GIVE YOU CREDIT FOR YOUR WORK. SEE ABOVE.**

a. Order of Operations **https://tinyurl.com/k5q59gt**
b. Graphing Slope Intercept Form **https://tinyurl.com/zw7ulfx**
c. Linear Equations in Any Form **https://tinyurl.com/grcoe4s**
d. Systems of Equations **https://tinyurl.com/pnxalpj**
e. Simplifying Square Roots **https://tinyurl.com/y7tvjvkm**
f. Multiplying Binomials **https://tinyurl.com/kbhjou6**
g. Factoring Quadratics **https://tinyurl.com/hfe827o**

*Khan Academy may ask for less than **five** in a row on some sections instead of five correct in a row. You may have to click on practice again in order to complete five problems for these sections.

Students **MUST** complete five problems in a row correctly for all of the topics above to earn full credit. Partial credit will be awarded as described below. If you struggle on any of the problems, please reference the videos for each topic and/or look for hints found on the right hand side of your screen when attempting a problem. Please note you do not have to complete all problems in one sitting. Khan Academy will remember where you left off. **Be sure to log-in every time you do additional work!**

Grading for Khan Academy for each topic:

Credit can **only** be awarded for any work completed after June 1st, 2018.
0 correct in a row: 0 points
1 correct in a row: 2 points
2 correct in a row: 4 points
3 correct in a row: 6 points
4 correct in a row: 8 points
5 correct in a row: 10 points

Timberlane Regional High School

Written Packet (Only do this packet if you do not have access to technology to complete the Khan Academy assignment.)

Order of Operations

Directions: You are strongly encouraged to complete all problems, however in order to earn full credit five of the following problems must be done **CORRECTLY.** Simplify the following expressions. SHOW ALL WORK!

1. $(2 \cdot 3)^2 + 5^2$

2. $\frac{1}{2}(4 \cdot 5) - 2^3$

3. $(3 + 2)^2 - 7$

4. $(\frac{1}{5})^2(3 + 2 + 5)^2$

5. $\frac{1}{3}(4 \cdot 3) + 2^3$

6. $2(3^2 + 4^2)$

7. $(\frac{1}{3})^2 + 3^2$

8. $\frac{3}{4}(2^3 + 4^2)$

9. $(4 \cdot 2)^2 - (2 \cdot 2)^2$

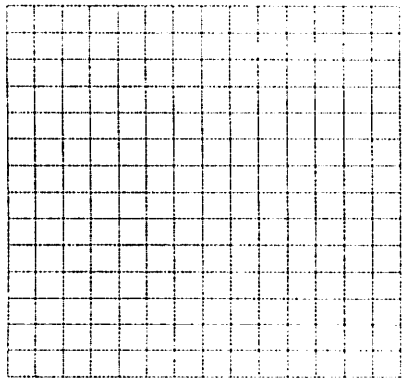
10. $(1 + 5^2) - 16(\frac{1}{2})^3$

Timberlane Regional High School

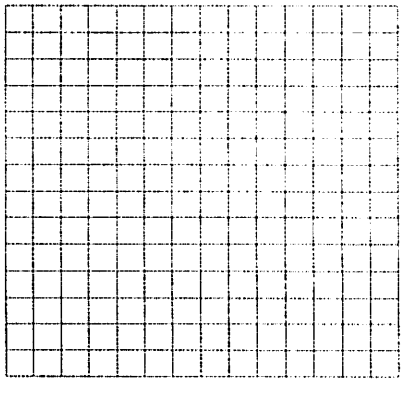
Graphing

Directions: You are strongly encouraged to complete all problems, however in order to earn full credit five of the following problems must be done **CORRECTLY.** Graph the equation of the line provided. SHOW ALL WORK!

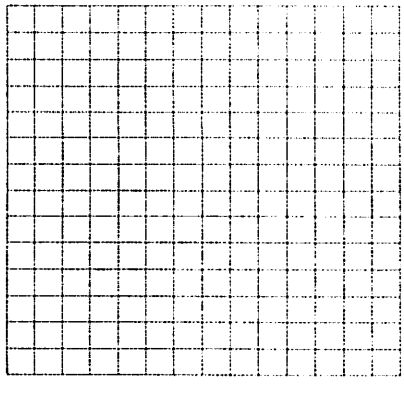
1. $y = \frac{1}{2}x - 4$



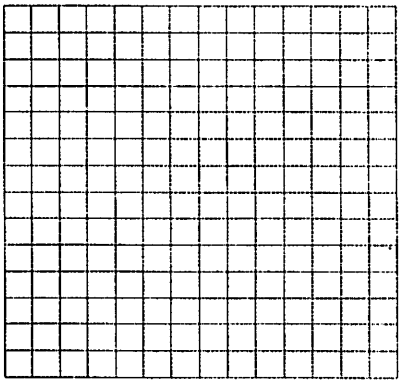
2. $y = \frac{-2}{3}x + 2$



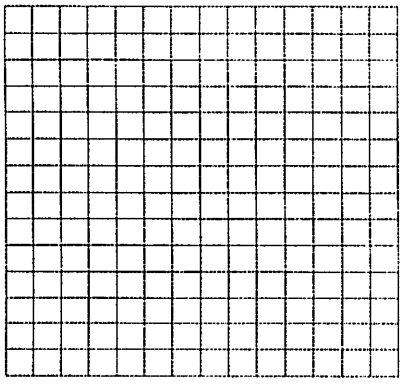
3. $y = \frac{1}{6}x - 3$



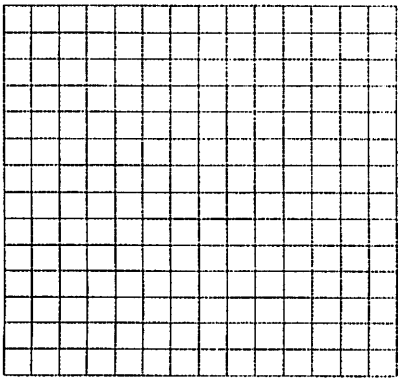
4. $y = 2x - 8$



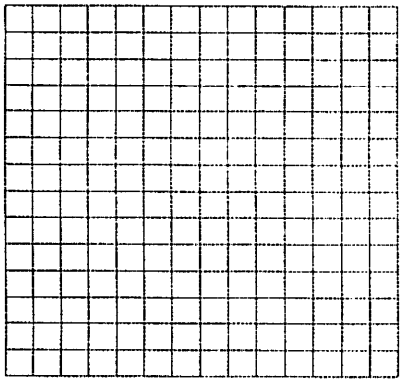
5. $y = -4x + 3$



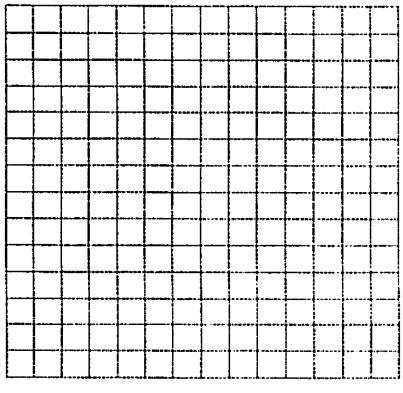
6. $y = \frac{1}{2}x$



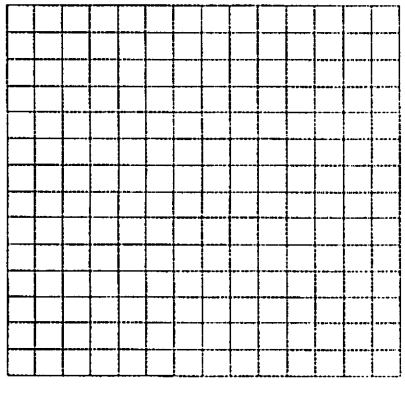
7. $x = 2$



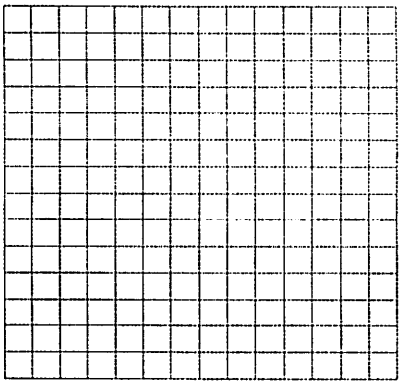
8. $y = -1$



9. $y = x$



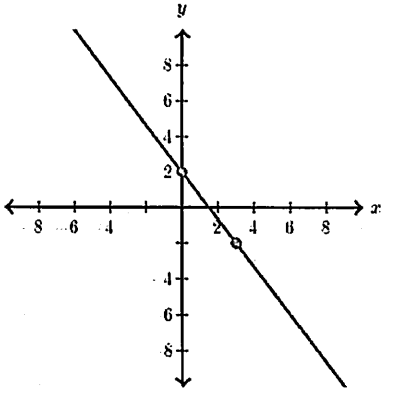
10. $y = \frac{1}{3}x$



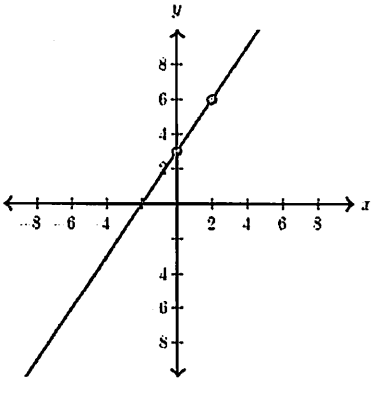
Linear Equations

Directions: You are strongly encouraged to complete all problems, however in order to earn full credit five of the following problems must be done **CORRECTLY. Determine the equation of the line in any form.** SHOW ALL WORK!

1.

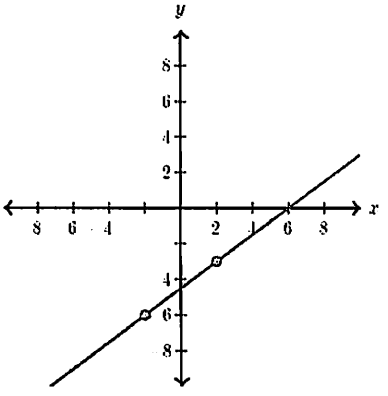


2.

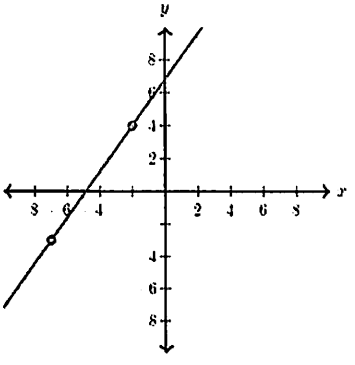


Timberlane Regional High School

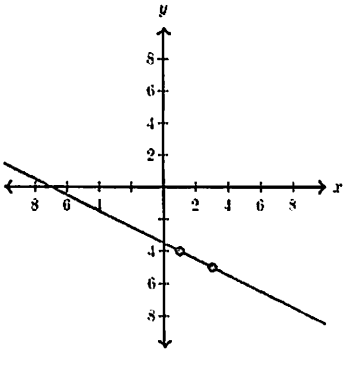
3.



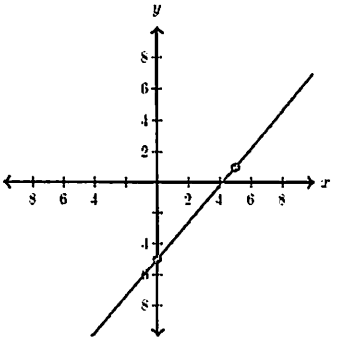
4.



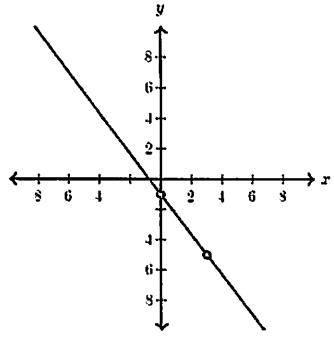
5.



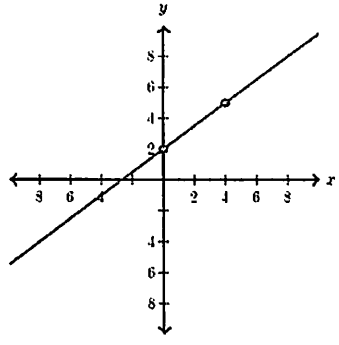
6.



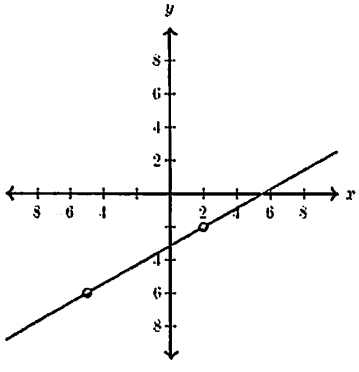
7.



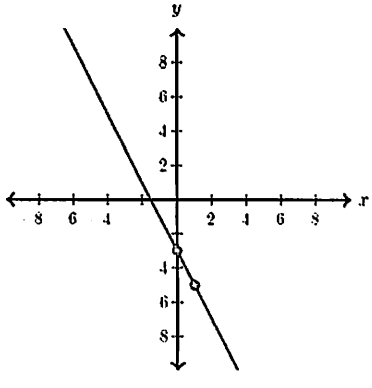
8.



9.



10.



Timberlane Regional High School

Systems of Equations

Directions: You are strongly encouraged to complete all problems, however in order to earn full credit five of the following problems must be done **CORRECTLY.** Solve for x and y. SHOW ALL WORK!

1. $6x - 5y = -32$
   $-7x + 8y = 46$

2. $7y + 10x = -11$
   $4y - 3x = -15$

3. $3x - 4y = 8$
   $18x - 5y = 10$

4. $5x - 4y = -10$
   $-4x + 5y = 8$

5. $-9y + 4x - 11 = 0$
   $-3y + 10x + 31 = 0$

6. $8y - 9x = -3$
   $5y - 8x = 10$

7. $-5y + 4x = 49$
   $7y + 2x = -23$

8. $3y + 10x - 54 = 0$
   $5y - 2x - 34 = 0$

9. $5x - 2y - 4 = 0$
   $3x + 16y - 54 = 0$

10. $-9y + 4x - 20 = 0$
    $-7y + 16x - 80 = 0$

Simplify each of the following square roots. The answers must be in lowest terms!

1. $\sqrt{242}$

2. $\sqrt{1248}$

3. $\sqrt{8} \bullet \sqrt{12}$

4. $\dfrac{\sqrt{150}}{\sqrt{2}}$

5. $\dfrac{\sqrt{72}}{\sqrt{6}}$

6. $\sqrt{8} \bullet \sqrt{18}$

7. $\sqrt{48} + 3\sqrt{3}$

8. $\left(3\sqrt{5}\right)^2$

9. $\left(\sqrt{24}\right)^2$

10. $\sqrt{6}\left(\sqrt{3} - \sqrt{12}\right)$

11. $\sqrt{48} + \sqrt{12}$

12. $9\sqrt{6} + \sqrt{24}$

13. $\dfrac{1}{2}\sqrt{12} + \dfrac{2}{5}\sqrt{75} - 2\sqrt{48}$

Timberlane Regional High School

Multiplying Binomials

Directions: You are strongly encouraged to complete all problems, however in order to earn full credit five of the following problems must be done **CORRECTLY.** Simplify the following binomials. Determine the answer that is best. SHOW ALL WORK!

1. $(x+3)(x-5)$
2. $(x-4)(x+7)$
3. $(x+1)(x+8)$
4. $(x-3)(x-4)$
5. $(x+6)(x-2)$
6. $(x-3)(x+3)$
7. $(x-4)(2x+3)$
8. $(5x+1)(3x-2)$
9. $(x+4)(x-4)$
10. $(x-7)(2x+1)$

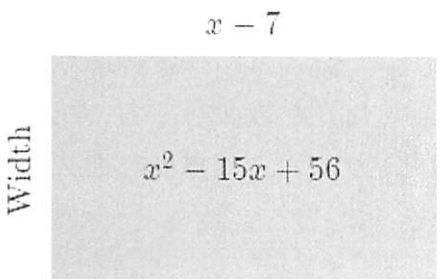
Timberlane Regional High School

Factoring Quadratics

Directions: You are strongly encouraged to complete all problems, however in order to earn full credit five of the following problems must be done **CORRECTLY.** Factor as the product of two binomials. SHOW ALL WORK!

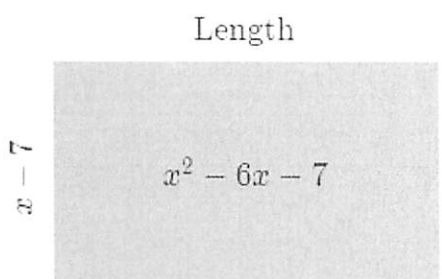
1. The rectangle below has an area of $x^2 - 15x + 56$ square meters and a length of $x - 7$ meters.

   What expression represents the width of the rectangle?



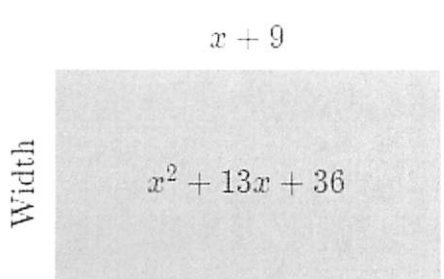
2. The rectangle below has an area of $x^2 - 6x - 7$ square meters and a width of $x - 7$ meters.

   What expression represents the length of the rectangle?



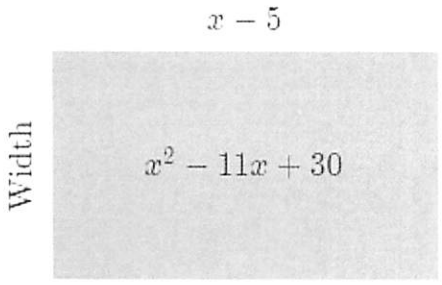
3. The rectangle below has an area of $x^2 + 13x + 36$ square meters and a length of $x + 9$ meters.

   What expression represents the width of the rectangle?



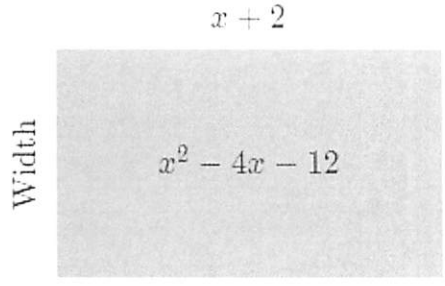
4. The rectangle below has an area of $x^2 - 11x + 30$ square meters and a length of $x - 5$ meters.

What expression represents the width of the rectangle?



5. The rectangle below has an area of $x^2 - 4x - 12$ square meters and a length of $x + 2$ meters.

What expression represents the width of the rectangle?



6. $x^2 - 3x - 10$

7. $x^2 - 9x + 20$

8. $x^2 - x - 42$

9. $x^2 + 3x - 4$

10. $x^2 + 10x + 24$