

Algebra 2 Honors
Summer Assignment
2019 – 2020 School Year

I'm looking forward to having you in Algebra 2 Honors next year! To get off to a good start, I am asking that you complete the attached assignment over the summer. The assignment is a review of Algebra 1. This assignment will be graded and will count as your first quiz grade. In addition, you will be having an in-class quiz on this material during the first few days of school.

I've included some online resources for you to look at to help you remember two most important skills you will need this coming year: factoring and simplifying square roots. Working with square roots and being able to factor are the basic skills needed to be successful in this course. In addition, there are two extra practice worksheets that focus specifically on these skills. I would suggest viewing the videos and completing the extra practice worksheets before completing the graded assignment portion. You may work on the problems with a friend, but be sure **you** understand how to solve them. When classes start, I will move quickly through the review material.

Assignment:

1. View the videos and try some practice problems (radicals and factoring). Check your work to the answer key. This portion is not graded but will benefit you greatly.
2. Complete the graded assignment portion. Show all of your work neatly and circle your final answers.

Your summer assignment should be done neatly, **in pencil**, and on **notebook paper**. If the problem requires multiple steps to solve, **show all the work!** Do not just write down the answer! **No work, no credit!**

The assignment is due the first day of school. Please bring it with you to our first class meeting.

This is a required assignment. The grade will be reduced if late and you have not contacted me to make arrangements. Remember, this assignment is my first impression of you. Make it a good one!

Have a great summer! I look forward to meeting you in September!

Mrs. Moss

HELPFUL VIDEOS

Simplify Square Roots, watch through 9 minutes 20 seconds.

<https://www.youtube.com/watch?v=ZDyScPdbTNs>

Rationalizing Square Roots, watch through 4 min. 15 seconds.

<https://www.youtube.com/watch?v=tTdhJOw3Fpw>

Factoring when the leading coefficient is 1

<https://www.khanacademy.org/math/algebra/multiplying-factoring-expression/factoring-quadratic-expressions/v/factoring-trinomials-with-a-common-factor>

Factoring by Grouping and with a Greatest Common Factor

<https://www.khanacademy.org/math/algebra/multiplying-factoring-expression/factoring-by-grouping/v/factoring-trinomials-by-grouping-1>

Factoring when the leading coefficient is not 1.

<https://www.khanacademy.org/math/algebra/multiplying-factoring-expression/factoring-by-grouping/v/factor-by-grouping-and-factoring-completely>

Factoring to solve equations.

EXTRA PRACTICE (NOT REQUIRED)

A. FACTORING. Factor completely and solve.

1. $3x^2 + 18x + x + 6 = 0$

2. $2x^2 - 18 = 0$

3. $3x^2 - 10x - 8 = 0$

4. $8x^2 - 16x + 6 = 0$

5. $4x^2 + 10x - 8 = 0$

6. $3x^3 + 14x^2 + 15x = 0$

7. $4x^3 + 24x^2 + 32x = 0$

8. $x^2 - 10x + 24 = 0$

9. $25x^2 - 1 = 0$

10. $3x^3 - 27x = 0$

B. WORKING WITH SQUARE ROOTS. Simplify each radical. Rationalize if necessary.

1. $\sqrt{175}$

2. $\sqrt{18}$

3. $\sqrt{45}$

4. $\sqrt{20}$

5. $\sqrt{12}$

6. $\sqrt{98}$

7. $\sqrt{588}$

8. $\sqrt{180}$

9. $\sqrt{112}$

10. $\sqrt{162}$

11. $\sqrt{27}$

12. $\sqrt{450}$

13. $\sqrt{192}$

14. $\sqrt{500}$

15. $\sqrt{147}$

16. $\sqrt{\frac{25}{9}}$

17. $\sqrt{\frac{36}{81}}$

18. $\sqrt{\frac{1}{4}}$

19. $\sqrt{\frac{8}{9}}$

20. $\sqrt{\frac{18}{25}}$

21. $\sqrt{\frac{49}{36}}$

22. $\sqrt{\frac{7}{14}}$

23. $\sqrt{\frac{3}{5}}$

24. $\sqrt{\frac{3}{18}}$

Directions: Neatly show all work on a separate sheet of paper. Then write your answer on the provided answer sheet.

1. Solve the equations.

a. $15x - 8 = 14x + 13$

b. $12 - 4(2x - 5) = 3x - 1$

c. $2|x + 3| - 4 = 12$

2. Solve the system.

a. $x = 16 - 4y$
 $3x + 4y = 8$

b. $2x + 5y = 14$
 $6x + 7y = 10$

3. Graph the equations/inequalities. Do this on the provided graph paper.

a. $y = 3x - 6$

b. $2x - 3y = 9$

c. $y > -x + 4$

d. $2y \leq x - 8$

4. Write the equation of the line that meets the given requirements.

a. Slope is 4
Through $(-3, -1)$

b. Through the points
 $(4, 7)$ and $(5, -1)$

5. Solve and graph the linear inequality. Write your answer on the answer blank, and include the graph under your answer in the space provided.

a. $2x + 11 < 25$

b. $1 - 3x \leq -14 + 2x$

c. $-5x > 75$

d. $30 > 2x$

6. Solve each equation by factoring. On the answer blank, show the factored form and the final answer. Ex: $(x - 1)(x + 4) = 0$; $x = 1$, $x = -4$.

a. $6x^2 - 9x + 2x - 3 = 0$

b. $x^2 - 5x - 4x + 20 = 0$

c. $6x^2 - 30x - 9 + 45 = 0$

d. $18x^3 - 24x^2 - 6x^2 + 8x = 0$

e. $x^2 - 3x - 18 = 0$

f. $2x^2 - 5x - 3 = 0$

g. $24x^2 + 4x - 8 = 0$

h. $x^2 - 25 = 0$

i. $2x^3 - 7x^2 + 3x = 0$

j. $2x^2 - x - 3 = 0$

k. $4x^2 - 9 = 0$

l. $6x^2 - 7x - 3 = 0$

m. $5x^3 - 30x^2 + 25x = 0$

n. $x^2 - x - 6 = 0$

o. $x^2 - 36 = 0$

p. $4x^2 - 17x - 15 = 0$

7. Simplify. Rationalize, if necessary.

a. $\sqrt{128}$

b. $\sqrt{90}$

c. $\sqrt{18}$

d. $\sqrt{54}$

e. $\sqrt{45}$

f. $\sqrt{28}$

g. $\sqrt{1125}$

h. $\sqrt{392}$

i. $\sqrt{52}$

j. $\sqrt{325}$

k. $\sqrt{600}$

l. $\sqrt{126}$

m. $\sqrt{50}$

n. $\sqrt{24}$

o. $\sqrt{96}$

p. $\sqrt{20}$

q. $\sqrt{72}$

r. $\sqrt{162}$

m. $\sqrt{\frac{16}{25}}$

n. $\sqrt{\frac{1}{9}}$

o. $\sqrt{\frac{3}{16}}$

p. $\sqrt{\frac{16}{3}}$

q. $\sqrt{\frac{4}{6}}$

r. $\sqrt{\frac{81}{9}}$

s. $\sqrt{\frac{10}{3}}$

t. $\sqrt{\frac{9}{2}}$

u. $\sqrt{\frac{16}{6}}$

v. $\sqrt{\frac{25}{10}}$

w. $\sqrt{\frac{5}{12}}$

x. $\sqrt{\frac{7}{20}}$

8. Graph the quadratic function.

a. $y = 2x^2 - x - 3$

b. $y = -(x - 1)^2 + 3$

Algebra 2 Honors
Summer Assignment
Answer Sheet

Name: _____

score: _____

Directions: Show all your work on a separate sheet of paper. Put your final answers here.
When you turn this in, please have it ONTOP of everything else.

1) a. _____

b. _____

c. _____

2) a. _____

b. _____

3) Answer on Graph Paper

4) a. _____

b. _____

5) a. _____

b. _____

c. _____

d. _____

6) a. _____

b. _____

c. _____

d. _____

e. _____

f. _____

g. _____

h. _____

i. _____

j. _____

k. _____

l. _____

m. _____

n. _____

o. _____

p. _____

7) a. _____

b. _____

c. _____

d. _____

e. _____

f. _____

g. _____

h. _____

i. _____

j. _____

k. _____

l. _____

m. _____

n. _____

o. _____

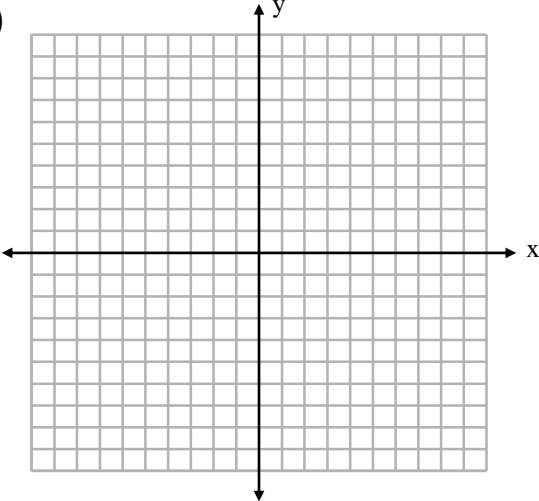
p. _____

q. _____

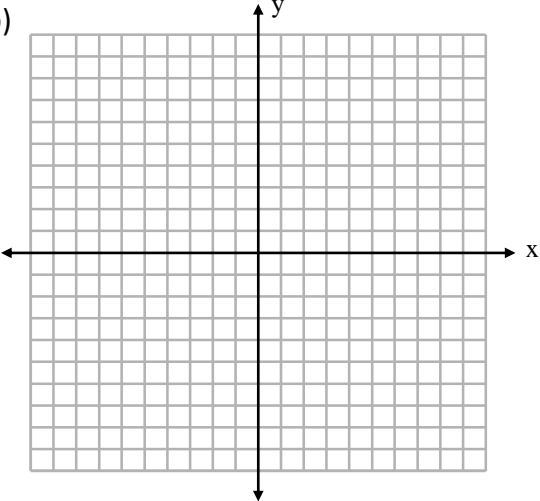
r. _____

Graphs for #3.

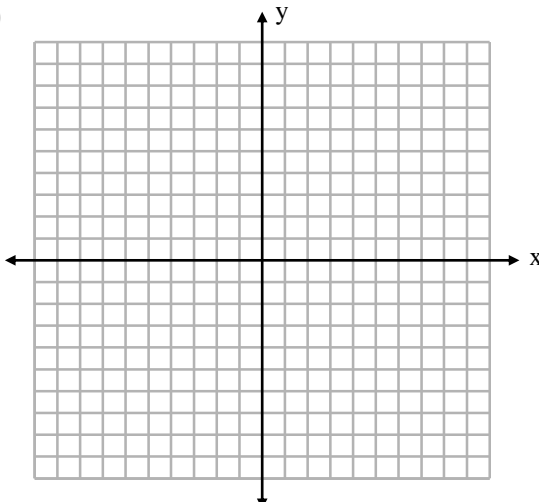
a)



b)



c)



d)

