June 2018

Dear Future Honors Algebra II Student~

Hello! Welcome to Honors Algebra II! This upcoming school year our mathematical focus will include patterns, quadratic functions, polynomial functions, polynomial expressions and equations and rational expressions and equations.

In order to prepare for our upcoming mathematical journey, it is necessary for you to review a few essential Algebra skills that will play a vital role in Honors Algebra II throughout the course of the school year.

Attached is a worksheet of practice problems. Each section of the worksheet features a different skill that you will need in Honors Algebra II. The problems in each section start out easy and get progressively more difficult. You may find some problems easy to do and others a bit more challenging. The worksheet will not be collected, but you will have a test over this material the first week of school.

It is best if you spread the problems out over the summer so that the worksheet is not an overwhelming task. The idea is for you to have these topics and concepts fresh in your minds when you return to school.

On my Moodle Page, there is a copy of this letter and worksheet. You can also find the answers to the worksheet. You can also find extra practice worksheets with answers for each topic and links to helpful YouTube videos for each topic.

Some supplies that you may need for the 2018 – 2019 school year include:

- a folder or binder with dividers
- colored pens, pencils or highlighters
- a graphing calculator.

You are strongly encouraged to have your own graphing calculator so that you can practice skills and complete your homework. The graphing calculator that will be used in class is from the TI-83/TI-84 family. Local retailers typically have these calculators on sale starting around July 1. Watch the sales ads and newspapers for the sales. You can also check local pawn shops for these types of calculators.

Please check your school email periodically over the summer. I may send you information about the class or sales on calculators!

I look forward to our journey through Honors Algebra II next year! Have a safe summer!

Mrs. Stadt

cstadt@tfd215.org

Table of Contents

Listed below are several websites that might be helpful and a good resource.

www.coolmath.com

www.khanacademy.com

www.learnzillion.com

www.youtube.com

Honors Algebra II Name_____ ID: 1

Summer Assignment 2018

Date_____ Period____

Solve each equation.

1) $5 = 1 + x + 8$
2) $-8 = -8 + 5x + 3x$
3) $5 - 8n - 6 = -17$
4) $5k - k = 8$
5) $11 = 6n + 6 + 5$
6) $130 = 2 + 4(4 + 4x)$
7) $5(1 - 8r) = -315$
8) $170 = -4(1 + 7x) + 6$
9) $-1 - 5(1 - 8x) = 154$
10) $-204 = -6(-8 - 7x)$
11) $-4 - n = -4(4n + 1)$
12) $32 - 6x = 4(1 - 5x)$
13) $-7(r - 5) = 33 - 6r$
14) $5(6 + m) = 12 + 2m$
15) $-8 + n = -n - 6(8 + 3n)$

Find each product.

16) $6(5r - 2)$
17) $2(2n - 6)$
18) $4(2n + 8)$
19) $4(2a - 5)$
20) $4x^2(6x - 1)$
21) $(8r + 3)(3r + 4)$
22) $(5p - 7)(4p - 5)$
23) $(7a - 2)(2a - 6)$
24) $(7m - 6)(6m - 1)$
25) $(4v - 8)(2v + 4)$
26) $(4x + 3)(4x^2 + 5x - 2)$
27) $(7k - 4)(4k^2 - 5k + 6)$
28) $(2m - 6)(3m^2 + m - 7)$
29) $(3r + 2)(4r^2 - 7r + 2)$
30) $(n + 6)(n^2 - 5n + 5)$

Factor the common factor out of each expression.

31) $-30k^6 + 10k^3 + 60k^2 + 10k$
32) $4n^2 + 24n$
33) $6n^5 + 48$
34) $48v^3 - 30v^2 - 6$
35) $25x^5 + 50x^3 - 15x + 35$

Factor each completely.

36) $v^2 - 5v - 24$
37) $r^2 + r - 2$
38) $v^2 - 9v + 8$
39) $p^2 + 4p - 21$
40) $b^2 + 10b + 24$
41) $n^2 + 6n + 5$
42) $n^2 - 13n + 42$
43) $n^2 + 3n - 28$
44) $n^2 - 7n + 10$
45) $x^2 + 15x + 50$
46) $5a^2 - 21a + 18$
47) $3x^2 + 11x - 42$
48) $2x^2 - 7x + 3$
49) $2x^2 - x - 21$
50) $7x^2 + 34x + 24$
51) $5n^2 + 38n - 63$
52) $5b^2 + 41b - 36$
53) $5m^2 + 27m + 28$
54) $2v^2 - 21v + 40$
55) $2n^2 + 5n - 25$
56) $6b^2 - 25b - 9$
57) $6a^2 + 5a - 1$
58) $10x^2 - 3x - 18$
59) $9x^2 + 36x + 20$
60) $9r^2 - 28r + 20$
61) $9x^2 - 54x + 80$
62) $4v^2 - 4v - 15$
63) $9p^2 + 28p + 3$
64) $8v^2 - 38v + 45$
65) $4m^2 + 33m + 35$
66) $n^2 - 16$
67) $25r^2 - 16$
68) $25x^2 - 9$
69) $9n^2 - 25$
70) $4x^2 - 25$
71) $4k^2 - 9$
72) $16r^2 - 25$
73) $m^2 - 9$
74) $x^2 - 4$
75) $a^2 - 1$

Answers to Summer Assignment 2017 (ID: 1)

1) $\{-4\}$
2) $\{0\}$
3) $\{2\}$
4) $\{2\}$
5) $\{0\}$
6) $\{7\}$
7) $\{8\}$
8) $\{-6\}$
9) $\{4\}$
10) $\{-6\}$
11) $\{0\}$
12) $\{-2\}$
13) $\{2\}$
14) $\{-6\}$
15) $\{-2\}$
16) $30r - 12$
17) $4n - 12$
18) $8n + 32$
19) $8a - 20$
20) $24x^3 - 4x^2$
21) $24r^2 + 41r + 12$
22) $20p^2 - 53p + 35$
23) $14a^2 - 46a + 12$
24) $42m^2 - 43m + 6$
25) $8v^2 - 32$
26) $16x^3 + 32x^2 + 7x - 6$
27) $28k^3 - 51k^2 + 62k - 24$
28) $6m^3 - 16m^2 - 20m + 42$
29) $12r^3 - 13r^2 - 8r + 4$
30) $n^3 + n^2 - 25n + 30$
31) $10k(-3k^5 + k^2 + 6k + 1)$
32) $4n(n + 6)$
33) $6(n^5 + 8)$
34) $6(8v^3 - 5v^2 - 1)$
35) $5(5x^5 + 10x^3 - 3x + 7)$
36) $(v - 8)(v + 3)$
37) $(r + 2)(r - 1)$
38) $(v - 1)(v - 8)$
39) $(p - 3)(p + 7)$
40) $(b + 4)(b + 6)$
41) $(n + 1)(n + 5)$
42) $(n - 6)(n - 7)$
43) $(n + 7)(n - 4)$
44) $(n - 5)(n - 2)$
45) $(x + 10)(x + 5)$
46) $(5a - 6)(a - 3)$
47) $(3x - 7)(x + 6)$
48) $(2x - 1)(x - 3)$
49) $(2x - 7)(x + 3)$
50) $(7x + 6)(x + 4)$
51) $(5n - 7)(n + 9)$
52) $(5b - 4)(b + 9)$
53) $(5m + 7)(m + 4)$
54) $(2v - 5)(v - 8)$
55) $(2n - 5)(n + 5)$
56) $(2b - 9)(3b + 1)$
57) $(a + 1)(6a - 1)$
58) $(2x - 3)(5x + 6)$
59) $(3x + 2)(3x + 10)$
60) $(r - 2)(9r - 10)$
61) $(3x - 8)(3x - 10)$
62) $(2v - 5)(2v + 3)$
63) $(p + 3)(9p + 1)$
64) $(2v - 5)(4v - 9)$
65) $(m + 7)(4m + 5)$
66) $(n + 4)(n - 4)$
67) $(5r + 4)(5r - 4)$
68) $(5x + 3)(5x - 3)$
69) $(3n + 5)(3n - 5)$
70) $(2x + 5)(2x - 5)$
71) $(2k + 3)(2k - 3)$
72) $(4r + 5)(4r - 5)$
73) $(m + 3)(m - 3)$
74) $(x + 2)(x - 2)$
75) $(a + 1)(a - 1)$