

HONORS ALGEBRA 2 SUMMER REVIEW PACKET

DUE THE FIRST DAY OF SCHOOL

The problems in this packet are designed to help you review topics from previous mathematics courses that are important to your success in Honors Algebra 2.

Please try to do each problem yourself. Show your work that explains how you got your answer. You may use words, symbols or both in your explanation.

Bring this finished packet with you to your Honors Algebra 2 class on the first day of school. You will be tested on these skills during the first week of school as part of your 1st quarter grade.



Enjoy your summer! ☺ We are looking forward to teaching you in August. If you have any questions, please e-mail the mathematics resource teacher at
Laura_D_Goetz@mcpsmd.org

Name: _____

This assignment is a review of skills you should have learned that will be needed to be successful in Algebra 2/Analysis next year. You should answer all questions and SHOW ALL WORK. We will expect you to come to class in the fall knowing this material and ready to learn Algebra 2/Analysis.

A. Evaluate each

_____ 1. $-3 - 6/2 - 12$

_____ 2. $-4^2 - 6^3/18$

_____ 3. $2x^3 - 3x^2 + 5x$ when $x = -3$

_____ 4. $3ab^2 + 5a^2b - 1$ when $a = 2$ and $b = -2$

B. Solve each linear equation

_____ 1. $-4(3 - x) = 2(x + 6)$

_____ 2. $2(3x + 6) + 8 = 6x$

_____ 3. $3x - 2(x + 1) = 0$

_____ 4. $3(x + 2) + 1 = 2x + 7 + x$

C. Simplify each by doing the indicated operations and combining like terms

_____ 1. $(-3x^2 + 4x - 7) + (2x^2 - 7x + 8)$

_____ 2. $(39a^4 - 4a^3 + 2a^2 - a - 7) - (10a^4 + 3a^3 - 2a^2 - a + 8)$

_____ 3. $-3xy^3(x - 2y)$

_____ 4. $(-3x^2y^3z)^3$

_____ 5. $(15a^4b^2c^3)^0$

_____ 6. $(8a^3b^2)(2a^{-4}b^{-5})$

_____ 7. $(3x + 7)(2x - 5)$

_____ 8. $(2x - 9)^2$

D. Factor each completely

_____ 1. $x^2 - x - 72$

_____ 2. $7x^3 - 4x^2 + 8x$

_____ 3. $a^2 + 16a + 64$

_____ 4. $x^2 - 49$

_____ 5. $10m^3n^2 - 15m^2n + 25m$

_____ 6. $25x^2 - 81y^2$

_____ 7. $2x^2 + 9x - 5$

_____ 8. $2x^2y - 4xy - 30y$

E. Solve each by factoring – remember to get the equation = 0 first

_____ 1. $x^2 - 6x = 0$

_____ 2. $x^2 - 3x = 10$

_____ 3. $x^2 = 16$

_____ 4. $x^2 = 4x + 32$

F. Solve each by quadratic formula - remember:

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

_____ 1. $x^2 + 5x - 1 = 0$

_____ 2. $x^2 + 10x = 9$

G. Write the equation of each in $y = mx + b$ form

_____ 1. $4x - 6y = 12$

_____ 2. $8x + 2y = 6$

H. Sketch each line on a graph

1. $y = \frac{2}{3}x - 4$

2. $x = 3$

3. $y = -1$

4. $x - 2y = -4$