

RAMAPO-INDIAN HILLS SCHOOL DISTRICT

Dear Ramapo-Indian Hills Student:

Please find attached the summer packet for your upcoming math course. The purpose of the summer packet is to provide you with an opportunity to review prerequisite skills and concepts in preparation for your next year's mathematics course. While you may find some problems in this packet to be easy, you may also find others to be more difficult; therefore, you are not necessarily expected to answer every question correctly. Rather, the expectation is for students to put forth their best effort, and work diligently through each problem.

To that end, you may wish to review notes from prior courses or on-line videos (www.KhanAcademy.com, www.glencoe.com, www.youtube.com) to refresh your memory on how to complete these problems. We recommend you circle any problems that cause you difficulty, and ask your teachers to review the respective questions when you return to school in September. Again, given that math builds on prior concepts, the purpose of this packet is to help prepare you for your upcoming math course by reviewing these prerequisite skills; therefore, the greater effort you put forth on this packet, the greater it will benefit you when you return to school.

Please bring your packet and completed work to the first day of class in September. Teachers will plan to review concepts from the summer packets in class and will also be available to answer questions during their extra help hours after school. Teachers may assess on the material in these summer packets after reviewing with the class.

If there are any questions, please do not hesitate to contact the Math Supervisors at the numbers noted below.

Enjoy your summer!

Ramapo High School
Michael Kaplan
mkaplan@rih.org
201-891-1500 x2255

Indian Hills High School
Amanda Zielenkiewicz
azielenkiewicz@rih.org
201-337-0100 x3355

Name: _____

Previous Math Course: _____

Ramapo- Indian Hills High School
Summer Math Packet

COLLEGE ALGEBRA & STATISTICS

To the students:

The following set of review problems were designed to prepare you for your CAS course. You can either print out the problems or complete them on a separate piece of paper. Please bring the packet and your completed work on the first day of school in September.

Thank you.

Simplifying Algebraic Expressions***Recall: PEMDAS- "Please Excuse My Dear Aunt Sally"******Parentheses, Exponents, Multiply, Divide, Add, Subtract***

1. $\left[1 + 7 + (24 \cdot 2) \div (2 \cdot 4)\right]$

2. $(7 \cdot 2 - 4) \div ((5 - 4) \cdot 10)$

Evaluate each expression if a = 2, b = -3, c = -1 and d = 4

3. $\frac{2d - a}{b}$

4. $\frac{3b}{5a + c}$

5. $(c + b)^2$

6. $c + b^2$

Solve each equation.

7. $r + 11 = 3$

8. $\frac{8}{5}a = -6$

9. $\frac{m}{10} + 15 = 21$

CAS Summer Packet

10. $9n+4=5n+18$

11. $-2y+17=-13$

12. $-2(n+7)=15$

Write the ordered pairs for each point shown in the coordinate plane.

13. $B = (\quad , \quad)$

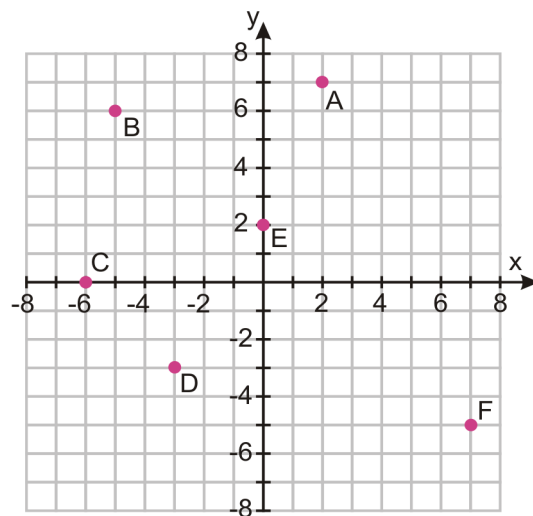
14. $C = (\quad , \quad)$

15. $E = (\quad , \quad)$

16. $A = (\quad , \quad)$

17. $D = (\quad , \quad)$

18. $F = (\quad , \quad)$



Find each product

19. $(n+8)(n-2)$

20. $x^4(x^2-3x+7)$

21. $(4x+5)(x+7)$

22. $(5m-6)(5m-6)$

23. $2x^3(3x^4+5x^3-6x^2-3x+2)$

24. $(2x+5)^2$

Find the slope of the line given the following points.

Recall: Slope is the steepness of a line. Given two points (x_1, y_1) and (x_2, y_2) slope $(m) = \frac{y_2 - y_1}{x_2 - x_1}$

25. $(1, 3)$ and $(3, 5)$

26. $(8, 11)$ and $(24, -9)$

27. $(-1, 7)$ and $(9, -7)$

28. $(-3, 4)$ and $(-3, -5)$

Write the equation in slope-intercept form of the equation given the following information.

Recall: equation of a line in $y = mx + b$ where $m = \text{slope}$ and $b = \text{y-intercept}$. A coordinate stands for the x and y

29. Slope = 3 and passes through $(0, -6)$

30. Passes through $(-2, 5)$ and $(3, 1)$

31. Passes through $(-1, -2)$ and $(-3, 1)$

32. Passes through $(1, 2)$ and \perp to $y = 2x + 3$

CAS Summer Packet

Find each value, if $f(x) = x^3 + 2x$ and $g(x) = 4x - 5$

33. $f(-2)$

34. $f(x-2)$

35. $g(5x-1)$

Solve the following systems of equations.

Recall: you can either solve the following system of equations by substitution, elimination, or graphing.

$-5x + 3y = 12$
36. $x + 2y = 8$

$-3x + y = 7$
37. $3x + 2y = 2$

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

$x - 4y = 22$
39. $2x + 5y = -21$

$y = 2x + 1$
40. $2y - 4x = 1$