

ALGEBRA 2

Math Maintenance Assignment

Welcome to Algebra 2! In order to ensure success in this course, this is a mandatory summer assignment packet. This packet is due on the first day of your math class whether it occurs in the first or second semester. While it is best to not put the assignment off to the last minute, you want to complete the assignment close enough to the start of your course so that the ideas are fresh. There will be an assessment on this material the first week of class, after the packet has been reviewed.

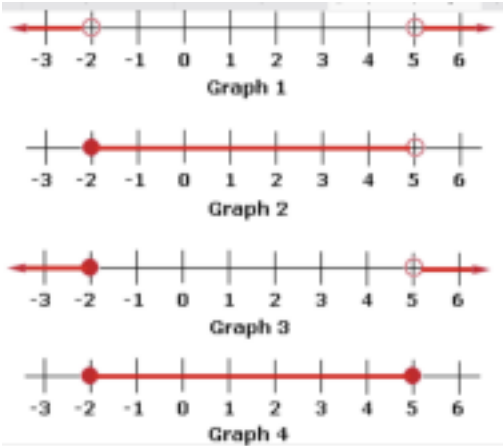
All topics in this assignment should be a review. You should not only be familiar with the topics but you should also know them well enough to be tested on them. This is material that will not be taught in the course. It is expected that you come in with a strong understanding of these topics. If you are unsure of how to do these problems, feel free to seek help with them. There are many websites with helpful videos including Khan Academy, YouTube, MathisFun.com, PurpleMath.com, Shmoop.com, and Algebrahelp.com.

Give us your best work while giving yourself the opportunity to get off to a great start! We look forward to having you in class!!

Sincerely,

The Math Department

Please show all work (preferably on the page) and do as much as you can without a calculator. Unless you are told to round, give exact values. For example, give $\frac{4}{3}$ instead of 1.33



Write the inequality represented by the graph on the number line to the left.

1. Graph 1
2. Graph 2
3. Graph 3
4. Graph 4

Evaluate the expression without using a calculator.

5. $\frac{2}{9} \times \frac{3}{8}$

6. $\frac{2}{7} \div \frac{3}{5}$

7. $\frac{2}{7} + \frac{3}{5}$

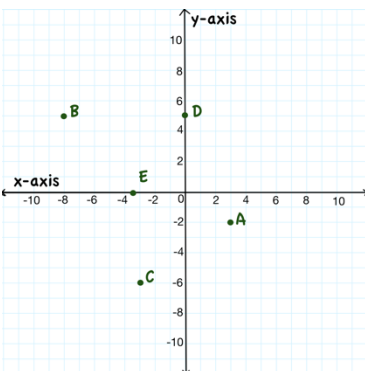
8. $\frac{2}{9} \times \frac{1}{6}$

9. Evaluate: -5^2

10. Simplify the expression: $8(n - 3n^2) - 2(5 - 6n)$

11. Multiply: $(2)(3x)(x)$

12. Give the ordered pairs represented by the points on the coordinate plane.



- A
- B
- C
- D
- E

13. Plot the ordered pairs.

12.

13.

F (7, 0)

G (0, -4)

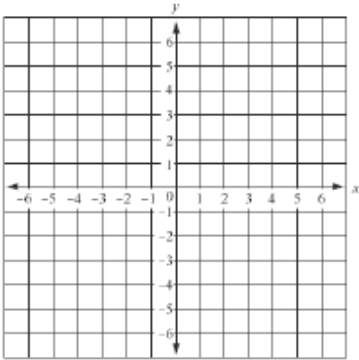
H (-6, 1)

I (2, -8)

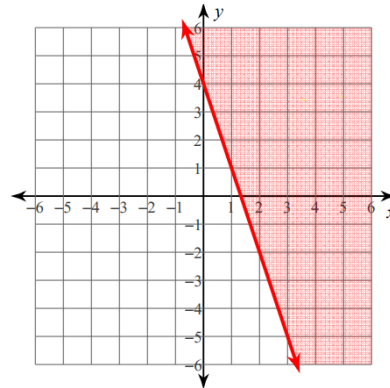
J (0, $\frac{1}{2}$)

14. Graph the inequality.

$$y < \frac{2}{3}x - 1$$



15. Give the inequality of the graph



Solve for each equation algebraically. Give your answer as an exact value.

16. $-2(3x - 5) - x = 3x + 8 + 2x$

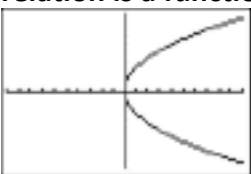
17. $\frac{1}{2}x + \frac{4}{5} = \frac{5}{6}x + \frac{1}{45}$

18. $-7 + 3n + 11 = 6n + 5 - 3n$

19. $6b + 5 - 2b = 4 + 4b + 1$

20. Evaluate the function $f(x) = x^2 - x + 3$ for $f(-4)$.

21. A function is a relationship that pairs each input value with exactly one output value. Tell whether the relation is a function.



Multiply.

22. $(x - 7)(x + 5)$

23. $(x + 6)^2$

Simplify the expression.

24. $c^4 \times c^5$

25. $(d^3)^2$

26. $\frac{e^0 f^2}{e^7 f^{-1}}$

27. $x + x$

Factor out a monomial (single term).

28. $3x^2 + 6x + 12$

29. $4x^3 - 5x^2$

30. $2x^2 + 8x$