College Algebra Summer Worksheet Name _____

*** These problems will be collected on the first day of class and used as a pre-assessment. They will not be graded for accuracy, but will be graded on completion. You may need to refer to YouTube videos if you forgot a topic. There will be an assessment over some of these topics the second day of class.*

This needs to be completed by your first day of class next August!

1. Find the place value of 2 in the following number. 793,821,145

2. Identify the quadrant that the point (-3,4) lies.

3. Use a < or > to make the following a true statement. $\frac{3}{7}[\ ]\frac{5}{11}$

4. Simplify. $(-30)\div(5)+3(4)-8(-2)$

5. Simplify the radical expression. $2\sqrt[3]{27x^4y^6}$

6. List all of the elements of the set $\{-100, 0, -10.5, \pi, \frac{75}{25}, 4, 6.\overline{45}\}$ that belong to the set:

A. Rational Numbers
B. Integers
C. Whole Numbers

7. Multiply. $\frac{5}{8}\cdot\frac{5}{12}\cdot\frac{4}{25}$

8. A recipe calls for $\frac{2}{3}$ cup of milk. How much milk should be used to make $\frac{1}{4}$ of the recipe?

9. Simplify. $\frac{3^2+(7\cdot 2)-3}{2^2-(6)(-2)-12}$

10. Simplify. $|3-15|(-4)\div(-16)$

11. Complete the ordered pairs for the equation. $3y-2x=5$

(, 3) (5,) (1,)

12. Solve for x. $4(x - 3)= -2(2x + 1)$

13. Solve for x. $1-\frac{2}{3}x=5$

14. Evaluate $2(x^2 – 3y) + 2y$ for x = -2 and y = 1

15. What number is 130% of 65?

16. Determine the slope between the points (-2,3) and (4,-5).

17. Determine the slope and y-intercept of the line $3x + 5y = 20$

18. Solve the inequality. $4(x+2) – 3x \leq 4 – 3(1-3x)$

19. Simplify. $(5x + 2y)(3x – y)$

20. Simplify. $(x^2 – x + 2)(x^2 + x – 1)$

21. Factor completely. $4x^2 – 9$

22. Factor completely. $10x^2 – 7x – 12$

23. Factor completely. $8x^3 - 27$

24. Simplify. $(3-5+12)^2 \div 5^2 + (-3)^2$

25. Simplify. $\left(\frac{a^8 b^{-5}}{5b^{10} a^{-4}} \right)^3$

26. Rationalize the denominator. $\frac{3}{\sqrt{12}}$

27. Set up an equation. Solve showing all work!
A 15 foot ladder is leaning against a building. If the bottom of the ladder is 9 feet from the base of the building, how high does the ladder reach?

28. Solve for x. $\frac{5x}{9} - 6 = x$

29. Find the equation of the line with slope $\frac{1}{2}$ that passes through (4,3).