\_\_\_\_\_\_\_\_ 1.

\_\_\_\_\_\_\_\_ 2. Find, where both numbers are given in base 9. Give your answer in base 10.

\_\_\_\_\_\_\_\_ 3. Area of a regular hexagon with side length 10.

\_\_\_\_\_\_\_\_ 4. What is the probability of rolling a sum of 8 on 3, six-sided dice?

\_\_\_\_\_\_\_\_ 5. Solve for x:

\_\_\_\_\_\_\_\_ 6. Solve for x:

\_\_\_\_\_\_\_\_ 7. The roots of the quadratic are . What is abc?

\_\_\_\_\_\_\_\_ 8. The sum of the reciprocals of two, real numbers is 19/10. Their product is 5/3. What is their sum?

\_\_\_\_\_\_\_\_ 9. Sum of the roots of the equation determined by the determinant of the matrix: .

\_\_\_\_\_\_\_\_ 10. Find the volume of a sphere whose great circle has an area of .

\_\_\_\_\_\_\_\_ 11. Simplify completely: .

\_\_\_\_\_\_\_\_ 12. Area of a triangle whose side lengths are 4,5,6.

\_\_\_\_\_\_\_\_ 13. Find the sum of the real, positive factors of 60.

\_\_\_\_\_\_\_\_ 14.

Find .

\_\_\_\_\_\_\_\_ 15. Simplify:

\_\_\_\_\_\_\_\_ 16. What is the measure of the smaller angle between the hands of a clock at 9:30 pm?

\_\_\_\_\_\_\_\_ 17. Find the determinant of the matrix given by M =

\_\_\_\_\_\_\_\_ 18. In what digit would end in?

\_\_\_\_\_\_\_\_ 19. How many terms are in the expansion of

\_\_\_\_\_\_\_\_ 20. How many edges are in a polygon with 12 faces and 6 vertices?

\_\_\_\_\_\_\_\_ 21. What is the number of diagonals in a regular polygon that has an exterior angle of 10°?

\_\_\_\_\_\_\_\_ 22. Vishal chooses two integers such that one integer is one more than twice the other and the two integers sum to 34. Find the value of |a – b|.

\_\_\_\_\_\_\_\_ 23. Find the number of distinct permutations of BANANA.

\_\_\_\_\_\_\_\_ 24. Rationalize .

\_\_\_\_\_\_\_\_ 25. Find the number of zeros at the end of 2014!