DRIVE TO STATE IN 2004 : TEST #30

1. $915 - 519 =$ _____.

2. $.4 + 50\% - \frac{3}{10} =$ _____ (decimal).

3. $361 \div 1.9 =$ _____.

4. $11 \times 526 =$ _____.

5. $5 \times 7 - 3 \times 8 =$ _____.

6. $512 \div 9 =$ _____ (mixed number).

7. Which is larger, $\frac{7}{9}$ or $\frac{4}{5}$? _____.

8. $15 \times 220 =$ _____.

9. $2 + 4 + 6 + \ldots + 32 + 34 =$ _____.

*10. $9 + 38 + 96 + 112 + 218 =$ _____.

11. $65^2 =$ _____.

12. $2315 \div 7$ has a remainder of _____.

13. LXVI + XXII = _____ (Arabic Numeral).

14. $62 \times 12 =$ _____.

15. $\frac{2}{7}$ of $24 = \frac{3}{7}$ of _____.

16. $14 \times \frac{14}{11} =$ _____ (mixed number).

17. The LCM of 32 and 56 is _____.

18. $33 \div 3\frac{1}{3} =$ _____ (decimal).

19. Find the cost of driving 152 miles at 25 cents per mile. $ _____.

*20. $42 + 422 + 4222 + 42222 =$ _____.

21. The average of 32, - 43, and 47 is _____.

22. If 24 oranges cost $5.60, then 3 oranges cost _____ cents.

23. $75_9 =$ _____ $_{10}$.

24. $12 \times 3367 =$ _____.

25. The 12th triangular number is _____.

26. 48 has _____ positive integral divisors.

27. $72 \times 32 =$ _____.

28. If today is October 16, 2005, then 25 days ago was September _____, 2005.

29. $43^2 + 26^2 =$ _____.

*30. $296 \times 421 =$ _____.

31. What is the perimeter of a square whose diagonal is $3\sqrt{2}$? _____.

32. $993 \times 998 =$ _____.

33. $3\frac{3}{4}\% =$ _____ (fraction)

34. Find the slope of the line passing through (4, - 1) and (6, 1). _____.

35. $27\frac{1}{4} \div 9 =$ _____ (mixed number).

36. The sum of the product of the roots taken two at a time of $-3x^3 + 6x^2 - 2x + 15 = 0$ is _____.

37. $56_8 =$ _____ $_7$.

38. If $95 = x^2 - y^2$ and $x > y$ are positive integers, $x < 18$, then $x =$ _____.

39. If 85 and 56 are in base 9, find the remainder when their sum is divided by 8. _____ .

*40. $142857 \times 55 =$ _____.

41. If $(15)(63) = 35y$, then $y =$ _____.

42. $24341 \div 101 =$ _____.

43. The sides of a triangle are 14, 31, and x. Its perimeter must be greater than_____.

44. The cube root of 68921 is _____.

45. The next term of 12, 15, 19, 21, 26, 27, . . . is _____.

46. $\frac{1}{4}$ acre =_____ square feet.

47. How many degrees are in the exterior angle of a regular 20-gon ?_____ °.

48. A pair of dice are tossed. Find the probability that the sum of the faces landing up is 7._____.

49. $(3 + 4i)(2 - 3i) =$_____.

*50. $21 \times 22 + 23 \times 24 =$_____.

51. The largest palindrome less than 528 is _____.

52. $1^2 - 2^2 + 3^2 - 4^2 + \ldots + 13^2 =$ _____.

53. A bag contains 9 nickels and x pennies. Find x if the probability of drawing a nickel is $\frac{3}{7}$._____.

54. $\cos(-210°) =$_____.

55. If $3x + 2 > 5x + 10$, then $x <$ _____.

56. How many distinct triangles can be drawn using the vertices of a regular octagon ?_____.

57. Find the number of positive proper fractions in lowest terms with a denominator of 40 is_____.

58. If $5^{x+1} = 48$, then $5^{x+2} =$ _____.

59. How many lines are determined by seven points no three of which are collinear ?_____.

*60. $23^4 =$_____.

61. How many ways can 4 keys be arranged around a circular key chain, without a clasp ?_____.

62. If $\frac{2 + i}{3 + 4i} = a + bi$, then $b =$ _____.

63. Write the first four non zero digits of the decimal for $\frac{67}{90}$; 0. _____.

64. Find the radius of the circle inscribed in a 20, 21, 29 triangle. _____.

65. The nth term of 10, 13, 16, 19, . . . is _____.

66. How many integers between 1 and 45 are relatively prime to 45 ? _____.

67. The area of the ellipse $x^2 + 16y^2 = 16$ is $k\pi$ and $k =$_____.

68. Two cards are drawn without replacement from a deck of 52 cards. What is the probability that both cards are hearts ? _____.

69. If $\log_6(3x + 15) = 3$, then $x =$ _____.

*70. $\sqrt{272484} =$ _____.

71. If $f(x) = \frac{4x + 3}{2x + 7}$ and $f^{-1}(x) = \frac{ax + 3}{cx + d}$, then $d =$ _____.

72. Change .123, base 5, to a base 10 decimal. _____.

73. Find the value of x if $x + y = 27$, the product xy^2 is a maximum and $y > 0$. _____.

74. If $f(x) = 3x^4 + 5x^2 - 2x - 6$, then $f'(x) =$ _____.

75. The point $(8, \frac{\pi}{4})$ in rectangular coordinates is (x, y) and $x =$ _____.

76. $12^{5/2} = a\sqrt{b}$ and $b =$_____.

77. A pair of dice are tossed. Find the odds that the sum of the faces are divisible by 3._____.

78. The sum of the positive integral divisors of 24 is _____.

79. Find the median to side 8, of a 4, 7, 8 triangle. _____.

*80. $1 + 2 + 3 + 4 + \ldots + 179 =$ _____.