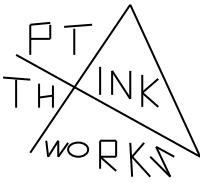


Name: _____
School: _____
Grade: 4 th 5 th



Elementary General Math #3

March 2, 2013

General Directions

This test will last for 40 minutes. There are 50 problems on the test.

Write all answers on your scantron answer sheet using a pencil. BE SURE THAT ALL ANSWERS ARE ON THE SCANTRON SHEET BEFORE TIME EXPIRES.

You may write on the test and show work on the test. You are not required to show any of your work or calculations.

You may skip around on the test. All problems have only one correct answer.

Calculators may NOT be used on this test.

Scoring: All problems correctly answered are worth 5 points. Two points will be subtracted for all problems answered incorrectly. No points are subtracted for problems that are skipped.

Tiebreakers: (1) Percent accuracy (2) First problem missed (not counting skips).

7. Set $A = \{T, A, P, E, R, S\}$. Set $B = \{R, A, S, P, Y\}$. How many proper subsets does $A \cap B$ contain?
- A. 7 B. 15 C. 16 D. 8 E. 1
8. $19^2 - \sqrt{25} + \sqrt{36} + 15^2 + 5 - 6$
- A. 586 B. 576 C. 596 D. 566 E. 72.5
9. Rylie was playing a word game. She had a theory that involved 4 letters. How many different arrangements of three letters could she make from the group of 4 letters? The word arrangement implies that order is important.
- A. 4 B. 16 C. 24 D. 12 E. 6
10. If 6 men can make 12 widgets in 4 days, how many men will need to work at the same rate to make 36 widgets in 8 days?
- A. 8 B. 18 C. 24 D. 12 E. 9
11. Subtract the square of 24 from the cube of 9. The result is 17 less than ____.
- A. 170 B. 136 C. 48 D. 180 E. 131
12. Which of the following numbers is an irrational number?
- A. $\sqrt{196}$ B. $\sqrt{81}$ C. 87.4 D. $\sqrt{31}$ E. $\frac{7}{8}$
13. What is the value of 35 quarters, 7 dimes, 25 nickels, and 5 pennies?
- A. \$10.40 B. \$10.70 C. \$11.75 D. \$10.75 E. \$13.25
14. What is the area of a rhombus with sides of 20 and diagonals of 24 and 32?
- A. 400 B. 240 C. 384 D. 640 E. 768
15. An isosceles triangle has a perimeter of 73. If the longest side is 31, what is the longest possible length of one of the other sides?
- A. 11 B. 21 C. 31 D. 42 E. 19
16. What is the hundreds digit of 83,915?
- A. 9 B. 5 C. 1 D. 3 E. 8
17. What is the units digit of 8^{35} ?
- A. 5 B. 6 C. 4 D. 8 E. 2

18. $286 \times 42 =$
- A. 12,012 B. 12,112 C. 12,212 D. 11,802 E. 11,812
19. The greatest common factor of 184 and 236 is:
- A. 252 B. 4 C. 6 D. 9 E. 12
20. Ella bought a gross of colored markers from Hobby Lobby. If she already owned 42 colored markers, how many more would she need to own two gross?
- A. 104 B. 98 C. 22 D. 102 E. 48
21. How many prime numbers are between 50 and 100?
- A. 10 B. 18 C. 16 D. 12 E. 15
22. Lara had a collection of foreign coins. How many ways could Lara pick 3 coins from a group of 8 distinct coins? She was not concerned with the order of her selections.
- A. 120 B. 336 C. 56 D. 11 E. 6,720
23. $46.25 \text{ cm} = \underline{\hspace{2cm}} \text{ m}$
- A. 4.625 B. 4625 C. 0.4625 D. 462500 E. 0.46
24. What is the total of the perimeters of 8 squares and three equilateral triangles if a side of a square and a side of the triangle are both 14 inches?
- A. 574" B. 154" C. 462" D. 524" E. 238"
25. Two numbers are relatively prime if their only common factor is one. How many positive whole numbers are relatively prime to 28?
- A. 8 B. 10 C. 12 D. 11 E. 14
26. $49,901 - 34,709 =$
- A. 15,182 B. 15,208 C. 15,202 D. 15,192 E. 15,292
27. $64 \times 64 =$
- A. 4,086 B. 4,096 C. 3,616 D. 3,936 E. 3,856

28. The product of the Roman numeral CXLII and the Roman numeral XCIX is:

- A. 14,058 B. 16,038 C. 18,088 D. 251 E. 16,362

29. Which of these numbers is prime?

- A. 72,363 B. 24,988 C. 277 D. 91 E. 119

30. What is the product of the units digit and the hundreds digit of the sum of $692 + 68 + 79 + 63 + 1,741$?

- A. 24 B. 18 C. 12 D. 15 E. 28

31. What is the prime factorization of 900?

- A. $2^3 \times 3^3 \times 5$ B. $2^2 \times 3^2 \times 5^2$ C. $2^4 \times 3^3 \times 5$ D. $2 \times 3^3 \times 5$ E. $2^4 \times 45$

32. What is the area of a rhombus with side lengths of 20 inches? One of the diagonals has a length of 32 inches.

- A. 384 in^2 B. 192 in^2 C. 400 in^2 D. 320 in^2 E. 640 in^2

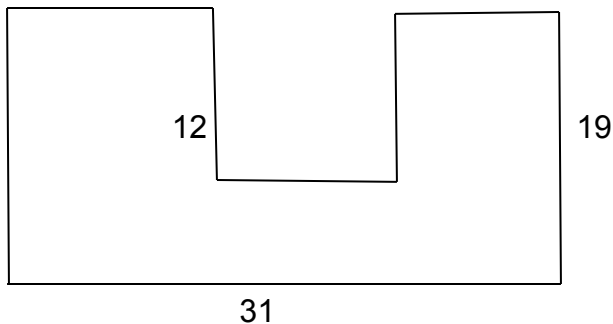
33. What is the perimeter of a square with an area of 361 in^2 ?

- A. 76 in. B. 578 in. C. 34 in. D. 144 in. E. 68 in.

34. What is the area of a rhombus with diagonals of 15 and 20?

- A. 300 B. 35 C. 600 D. 150 E. 70

35. Find the perimeter of this figure. This figure is a rectangle with a square removed.



- A. 124 B. 112 C. 105 D. 102 E. 136

36. If $f(M) = 5M + 3M + 17$, then find the value of $f(13)$.

- A. 743 B. 51 C. 119 D. 121 E. 131

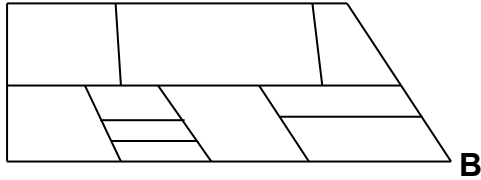
37. The time 84.75 hours past 3:22 pm would be:

- A. 3:47 pm B. 3:57 pm C. 4:37 am D. 5:12 am E. 4:07 am

38. What is the difference of 6,104 and 5,999 increased by 6,332?
 A. 5,771 B. 6,438 C. 6,437 D. 5,761 E. 18,435

39. How many paths exist from A to B, if you are only allowed to move down (\downarrow) or to the right (\rightarrow)? A diagonal move downward is also acceptable.

A A. 18 B. 8 C. 14 D. 13 E. 12



40. Add 5% of 440 to 25% of 444. Now subtract 5^3 . What is the result?
 A. 256 B. 7 C. 8 D. 116 E. 206

41. How many factors does 360 have? (Hint: The factors of 12 are 1,2,3,4,6, and 12.)
 A. 24 B. 30 C. 20 D. 16 E. 18

42. $37.2 \times 29.8 =$
 A. 11,085.6 B. 1,105.6 C. 438.96 D. 1,108.56 E. 1,107.56

43. 215 in base 6 is equal to what value in base 10 ?
 A. 35 B. 23 C. 84 D. 1,290 E. 83

44. If 18 Osgoods = 4 Tapirs and 2 Tapirs = 24 Nolars, then 192 Osgoods = how many Nolars?

A. 384 B. 1,024 C. 484 D. 216 E. 512

45. What is the sum of the factors of 450?
 A. 1,209 B. 1,164 C. 1,150 D. 758 E. 1,128

46. What is the sum of the digits of the sum of $2,223,605 + 8,456,981$?
 A. 36 B. 35 C. 34 D. 41 E. 37

47. What is the median of 94, 96, 201, 122, 194, 132, 118, 22, 68, and 13?
 A. 107 B. 96 C. 106 D. 163 E. 117

48. If $A \circledast B = 12B + 15A$, then what is the value of $4 \circledast 7$?
 A. 281 B. 153 C. 144 D. 194 E. 204

49. 3123 in base 4 is equal to what value in base two?
 A. 217 B. 11011101 C. 10011101 D. 11011011 E. 1000011

50. What is the 15th number in this pattern: 1, 5, 12, 22, __, __, __, __, ...?
 A. 132 B. 165 C. 330 D. 247 E. 390