Name: _____

School: _____

Grade: 4th 5th

Elementary General Math #1

2013-2014

General Directions

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

Write all answers on your answer sheet.

Always use capital letters on your answer sheet.

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).

Elementary Math Test #1

General Math Test – 4th and 5th Grade

Choose the letter of the correct answer. You may skip around on this test.

1. What is the sum of 42 and 346 and 4,982?

   A. 5,270 B. 5,470 C. 5,360 D. 4,370 E. 5,370

2. Which value is equal to the reciprocal of 5?

   A. 2.5 B. 50 C. - 5 D. 0.2 E. 0.5

3. The Fibonacci sequence starts as 1,1,2,3,5,8,13,21,34,… What is the next number in the sequence?

   A. 47 B. 42 C. 34 D. 65 E. 55

4. What is one-half of one-half of one and one-half?

   A. $\frac{3}{8}$ B. $\frac{9}{16}$ C. $\frac{9}{64}$ D. $\frac{3}{64}$ E. $\frac{3}{4}$

5. What is the largest prime number from these choices?

   A. 53 B. 61 C. 105 D. 91 E. 87

6. The difference of 67,981 and 47,681 is:

   A. 2,200 B. 20,127 C. 20,200 D. 20,002 E. 20,300

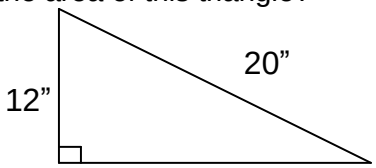
7. Change 233_5 to base 10.

   A. 68 B. 28 C. 63 D. 58 E. 466

8. Rylie likes to play with the glass game tokens from Mancala. One day she decided to use them as play money in her store. She let the green tokens count as 50¢, the red ones count as 25¢, and the yellow ones as $1.00. What would be the value of 7 yellow tokens, 5 green tokens, and 7 red tokens?

   A. $11.75 B. $11.50 C. $12.00 D. $11.25 E. $12.25

9. What is the area of this triangle?



A. 96 in² B. 120 in² C. 32 in² D. 72 in² E. 108 in²

10. How many prime numbers are between 10 and 85?

A. 23 B. 20 C. 19 D. 18 E. 17

11. Katelyn had a collection of wrist bands. She had 25 red bands, 8 blue bands, and 17 orange ones. What is the probability that she would blindly pick an orange wrist band out of the drawer where she kept the collection?

A. $\frac{1}{17}$ B. $\frac{8}{17}$ C. $\frac{17}{25}$ D. $\frac{17}{50}$ E. $\frac{4}{25}$

12. Of the numbers listed, what is the smallest prime number greater than 29?

A. 32 B. 33 C. 35 D. 37 E. 39

13. 68 x 48 = _____.

A. 2,864 B. 2,464 C. 3,264 D. 116 E. 3,064

14. What is the value of 44 quarters, 7 dimes, 9 nickels, and 7 pennies?

A. $12.22 B. $12.27 C. $13.22 D. $11.27 E. $9.27

15. What is the sum of the factors of 63?

A. 64 B. 104 C. 103 D. 80 E. 105

16. What is the name of a polygon with 8 sides?

A. heptagon B. octagon C. hexagon D. dodecagon E. nonagon

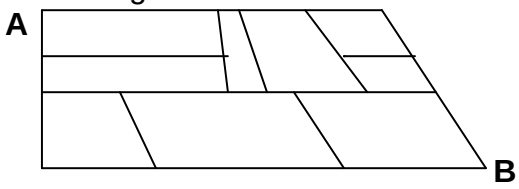
17. 74,914 + 21,253 =

A. 96,177 B. 96,157 C. 96,267 D. 95,167 E. 96,167

18. What is the units digit of 9^{65}?

A. 1 B. 9 C. 3 D. 7 E. 8

19. How many paths exist from top corner A to bottom corner B? You may only move to the right or down. A. 14 B. 11 C. 12 D. 10 E. 13



20. Add 40% of 200 to 100% of 350. Now add one less than 7 x 7. What is the result?
A. 438 B. 478 C. 479 D. 450 E. 579

21. How many distinct integral factors does 84 have? (Hint: The factors of 10 are 1, 2, 5, and 10.)
A. 12 B. 8 C. 10 D. 84 E. 9

22. How many subsets does set A have? Set A = {R, 5, K, #, @}.
A. 5 B. 16 C. 32 D. 10 E. 64

23. In question #22, how many proper subsets does set A have?
A. 1 B. 15 C. 31 D. 9 E. 63

24. Trigonometry is based on the geometry of triangles. Three trig ratios are sine, cosine, and tangent. Which fraction below refers to the cosine ratio?

A. $\frac{A}{O}$ B. $\frac{A}{H}$ C. $\frac{O}{H}$ D. $\frac{O}{A}$ E. $\frac{H}{A}$

25. What is the median of 84, 36, 64, 26, 74, 36, 44, 84, and 36?
A. 55 B. 74 C. 36 D. 40 E. 44

26. What is the sum of the digits of 819,336,901,785?
A. 58 B. 59 C. 61 D. 60 E. 62

27. What is the mean of 64, 36, 74, 36, 74, 36, 74, 36, 94, and 46?
A. 59.1 B. 55.8 C. 48 D. 57 E. 56.2

28. If A ® B = (A x B) + (B + 14), then what is the value of 5 ® 7?
A. 54 B. 133 C. 58 D. 60 E. 56

29. What is the sum of 38 and 97?
A. 134 B. 135 C. 139 D. 125 E. 137

30. What is the 10^{th} number in this pattern: 0, 1, 4, 9, 16, 25, __, __, __, __?
A. 121 B. 81 C. 36 D. 144 E. 100

31. How many composite numbers are between 1 and 100?

A. 75 B. 74 C. 25 D. 73 E. 72

32. The greatest common factor of 87 and 145 is:

A. 3 B. 7 C. 9 D. 13 E. 29

33. Ayden loves math. One day, he wrote the first 15 rows of Pascal's triangle in his notebook. Knowing that the top row is called row zero, he decided to add the numbers in each row. What was the sum of the numbers in rows 4 and 6?

A. 80 B. 70 C. 64 D. 78 E. 10

34. How many numbers between 20 and 110 contain a seven as a digit? (Example: The number 37 has a seven in the one's place.)

A. 16 B. 18 C. 17 D. 19 E. 10

35. How many ways could Allyson choose 3 pictures from a collection of 7 pictures? She plans to place the 3 pictures in a vertical picture frame that contains slots for 3 pictures. She had some difficulty deciding which picture to place in slot 1.

A. 840 B. 720 C. 2,480 D. 210 E. 180

36. 892.25 dkm = _____ mm

A. 892250 B. 8922500 C. 8.9225 D. 892.25 E. 0.89225

37. The longest side of a right triangle is called the:

A. ordinate B. hypotenuse C. hypothesis D. apex E. longitude

38. What is the total sum of the degrees of all of the angles in 5 triangles?

A. 900 B. 1800 C. 180 D. 1200 E. 1800

39. How many distinct arrangements of the word HAPPINESS are possible? (Hint: The arrangement does not have to spell a correct word. SHAPSPINE would count as an arrangement.)

A. 90,720 B. 362,880 C. 9 D. 91,720 E. 89,720

40. 51 + 49 =

A. 110 B. 99 C. 98 D. 90 E. 100

41. The product of the Arabic numeral 149 and the Roman numeral XLIV is:
A. 6,556 B. 6,456 C. 6,854 D. 9,536 E. 193

42. $(92 \div 4) + (15 \times 17) + (33 - 12) =$
A. 199 B. 289 C. 279 D. 299 E. 309

43. What is the sum of 38 + 48 + 98 + 47 + 62?
A. 291 B. 293 C. 283 D. 282 E. 303

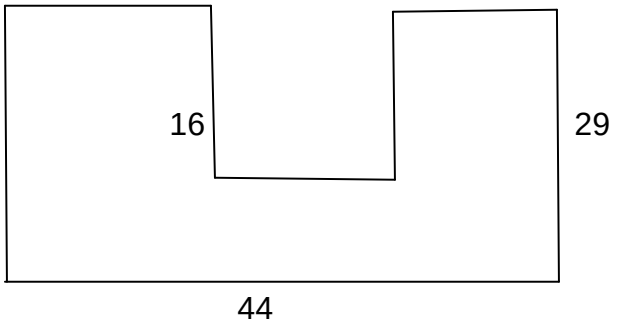
44. What is the prime factorization of 60?
A. $2^3 \times 3^2 \times 5^2$ B. $2^2 \times 3 \times 5$ C. $2^5 \times 3 \times 5$ D. $2 \times 3 \times 5$ E. $2^4 \times 15$

45. What is the perimeter of a rectangle with a length of 5 in. and a width of 2 in.?
A. 10 in B. 7 in C. 16 in D. 14 in E. 100 in

46. What is the square root of 5,184?
A. 76 B. 77 C. 72 D. 78 E. 68

47. Find the product of 67 and 63.
A. 3,621 B. 130 C. 4,121 D. 4,221 E. 4,021

48. Find the perimeter of this figure. The figure represents a rectangle with a square missing.



A. 178 B. 118 C. 133 D. 134 E. 149

49. What is the value of 40 quarters, 20 dimes, and 40 nickels?
A. $14.10 B. $14.00 C. $14.05 D. $14.20 E. $12.00

50. The time 87.25 hours past 10:45 pm would be:

A. 1:00 am B. 2:10 pm C. 3:00 pm D. 2:00 am E. 2:00 pm