Penny Sikes 5th and 6th Grade Mathematics Tournament

Sponsored by Farmers and Merchants Bank

2013 5th Grade Individual Test

1) Make sure your name, the full name of your school, and your grade are correct on the answer sheet.

2) NO CALCULATORS!

3) DO NOT OPEN THIS TEST BOOKLET UNTIL INSTRUCTED TO DO SO BY THE TEST MONITOR.

4) If you must leave to go to the restroom, raise your hand and a monitor will escort you to the nearest restroom. Remember you have a time limit.

5) Read each problem carefully and mark each answer on your answer sheet.

6) Each correct answer on the test will be counted as one point on your individual score.

7) If individuals have the same written test score, ties will be broken by determining which student gave correct answers to the most difficult item(s) on the test.

8) When the individual testing is over, please make sure you take your pencil, test, and scratch work with you. You will need the pencil for the ciphering rounds.

2013 Penny Sikes Math Tournamen

5th Grade Exam

Name _____ Date _____

1. If you have \$25.00 and no one dollar bills, which of the following represents the largest number of bills you could have?

   a) four \$5 bills
   b) five \$5 bills
   c) one \$10 and three \$5 bills
   d) four \$10 bills

2. Sue had \$45, which she earned doing odd jobs. After her father gave her x dollars to clean the attic, she had \$88.50. Which equation could be used to find the amount of money she received for cleaning the attic?

   a) $x - 88.50 = 45$
   b) $45 + 88.50 = x$
   c) $45 + x = 88.50$
   d) $x + 88.50 = 45$
   e) $45 - x = 88.50$

3. What percent of the students in the drama club did not attend the play if $\frac{4}{5}$ of the students did attend the play?

   a) 10%
   b) 20%
   c) 30%
   d) 40%
   e) 50%

4. Using the correct order of operations, which computation should you make first?

   $7 - 4 \times 1 + 12 \div 4 + 2$

   a) $7 - 4$
   b) 4×1
   c) $4 + 2$
   d) $12 \div 4$

5. Reduce the fraction $\frac{24}{72}$ to lowest terms.

   a) $\frac{1}{6}$
   b) $\frac{1}{3}$
   c) $\frac{1}{2}$
   d) $\frac{2}{3}$
   e) $\frac{3}{4}$

6. Fred rents a parking space for \$12 per week. Last year, Fred rented the parking space for 26 weeks and received a \$25 refund for being a six-month customer. What was the total cost of the parking spot after the refund?

   a) \$287
   b) \$305
   c) \$312
   d) \$337
   e) \$338

7. Given the stem-and-leaf table, find the range of the data.

Stems	Leaves
1	5
3	2
4	3, 5
5	1, 7, 8
6	2, 3, 5, 8, 8, 8, 8, 9
7	0, 0, 4, 7, 9
8	2, 4, 4, 8
9	3, 4, 5, 8, 8

a) 15 b) 45 c) 68 d) 83 e) 98

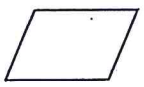
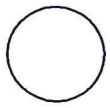
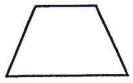
8. Which of the following is the set of *all* prime numbers less than 12?

a) $\{0, 1, 2, 3, 5, 7, 11\}$ b) $\{1, 2, 3, 5, 7, 11\}$ c) $\{1, 3, 5, 7, 9, 11\}$
d) $\{2, 3, 5, 7, 11\}$ e) $\{3, 5, 7, 9, 11\}$

9. Simplify: $2\frac{5}{8} \div 9$

a) $\frac{1}{4}$ b) $\frac{7}{24}$ c) $1\frac{1}{12}$ d) $1\frac{7}{24}$ e) $2\frac{1}{3}$

10. Which figures appear to have more than one line of symmetry?

I.  II.  III.  IV. 

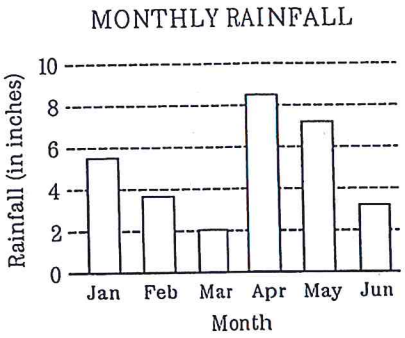
a) I only b) II only c) IV only
d) II and III only e) I, III and IV

11. What is the place value for the digit 7 in the decimal 215.017?

a) ten-thousandths b) thousandths c) hundredths
d) tenths e) units

12. The chart shows the rainfall (in inches) from January to June for one city. In which 2 months was the sum of the rainfall for those months approximately equal to the rainfall in January?

a) February, March
b) March, May
c) April, June
d) March, June
e) February, June



13. Arrange the numbers $\frac{3}{5}$, 0.67, $\frac{2}{3}$, 0.61 from smallest to largest.

a) $\frac{2}{3}$, 0.61, $\frac{3}{5}$, 0.67
b) $\frac{3}{5}$, 0.61, $\frac{2}{3}$, 0.67
c) $\frac{3}{5}$, 0.61, 0.67, $\frac{2}{3}$
d) $\frac{3}{5}$, 0.67, $\frac{2}{3}$, 0.61
e) $\frac{2}{3}$, $\frac{3}{5}$, 0.61, 0.67

14. Find the mean for the set of data 44, 35, 47, 40, 37, 43, 40, 37, 42, 37, 49.

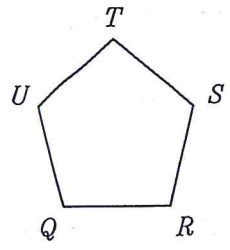
a) 37
b) 40
c) 41
d) 49
e) 50

15. The towns of Clifton, Derby, and Edgewater are located in an east/west straight line. Clifton is located $9\frac{2}{5}$ miles east of Derby. Edgewater is located $23\frac{3}{4}$ miles west of Derby. How far apart are Clifton and Edgewater?

a) $32\frac{7}{9}$ miles
b) $32\frac{3}{7}$ miles
c) $32\frac{3}{20}$ miles
d) $33\frac{3}{20}$ miles
e) $33\frac{3}{7}$ miles

16. Classify the given polygon.

a) triangle
b) quadrilateral
c) pentagon
d) hexagon
e) decagon



17. If $a = 4$, $b = 2$, and $c = 10$, find the value of $ac - 2ab$.

a) -40 b) -2 c) -8 d) 16 e) 24

18. Find the mode for the set of data 3.3, 4.6, 8.7, 4.6, 9.4, 3.8, 2.7, 4.6, 3.3.

a) 4.6 b) 5 c) 8.7 d) 9 e) 9.4

19. What number is represented by the expanded form $300{,}000 + 70{,}000 + 9{,}000 + 100 + 3$?

a) 370,103 b) 379,130 c) 379,103 d) 3,079,103 e) 3,790,013

20. Alicia received a shipment of lightbulbs. 12% of the lightbulbs were broken when they arrived. If 50 lightbulbs were shipped, how many were *not* broken?

a) 38 b) 40 c) 42 d) 44 e) 46

21. What shaded portion of the given figures represents the fraction $\frac{4}{5}$?

a)  b)  c)  d) 

e) 

22. Simplify: 5.12×6.4

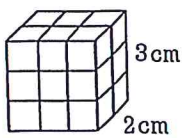
a) 23.988 b) 27.218 c) 30.218 d) 32.768 e) 39.728

23. If each side of a regular hexagon is 6, find the perimeter.

a) 24 b) 30 c) 36 d) 38 e) 48

24. How many cubic centimeters are in the box shown?

a) $18\,\text{cm}^3$ b) $15\,\text{cm}^3$ c) $12\,\text{cm}^3$ d) $9\,\text{cm}^3$



25. The abbreviation lb for pound comes from *libra*, an ancient Roman weight that is equivalent to 327.45 grams. Another unit in that system, the *sextans*, is equivalent to 54.575 grams. What is the weight, in grams, of a bag of salt weighing 1 libra 1 sextans?

a) 272.875 g b) 371.925 g c) 382.025 g d) 600 g e) 873.025 g

26. Evaluate $(11z + 6)(z - 3)$ for $z = 4$.

a) -35 b) 21 c) 50 d) 70 e) 350

27. Mrs. Swerk wants to redecorate her office. The decorator shows her 4 different kinds of carpet, 3 colors of paint, and 3 types of curtains. How many different combinations of carpet, paint, and curtains are possible?

a) 10 b) 12 c) 18 d) 24 e) 36

28. The box given shows Lakeisha's scores on five math quizzes.

100, 89, 84, 72, 95

What is the relationship between Lakeisha's mean and median quiz score?

a) The mean is one point lower than the median.

b) The mean is four points lower than the median.

c) The mean is one point higher than the median.

d) The mean is four points higher than the median.

29. On average, 8 cars travel through a certain intersection every 3 hours. At this rate, how many cars will travel through the intersection in 24 hours?

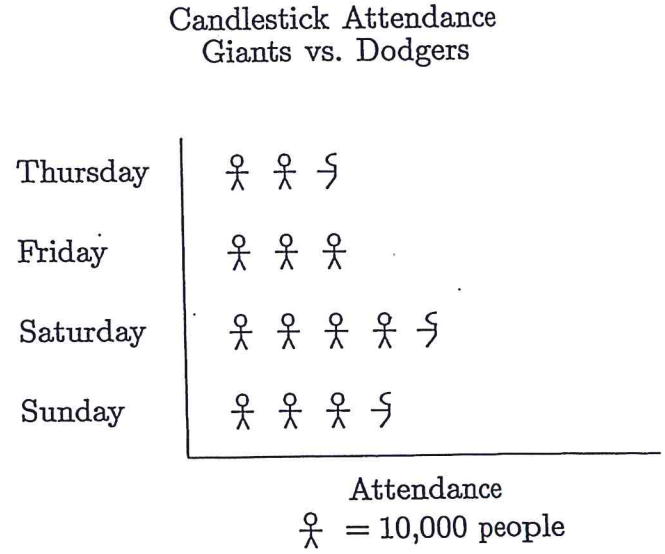
a) 9 b) 24 c) 64 d) 128 e) 144

30. Elisa is buying a computer which costs \$1480 plus 8.5% sales tax. Approximately how much will she pay for the computer?

a) \$1480 b) \$1520 c) \$1600 d) \$1700 e) \$1800

31. What was the total attendance for the four-game series?

a) 120,000 b) 125,000 c) 130,000
d) 135,000 e) 140,000



32. What is the volume of a rectangular prism with length 5, width 2, and height 3?

a) 10 units^3 b) 30 units^3 c) 62 units^3 d) 90 units^3 e) 150 units^3

33. Carlos purchased 2 pairs of shorts and a pair of socks for \$33.08. He gave the clerk \$50. How much change should the clerk give Carlos?

a) \$17.08 b) \$16.92 c) \$16.82 d) \$16.08 e) \$15.92

34. Look at the following numbers from a calculator display. Which is the largest number?

a) 3.062 b) 3.038 c) 3.009 d) 3.070

35. Which algebraic expression represents twice a number subtracted from 54?

a) $2x + 54$ b) $2(x + 54)$ c) $2x - 54$ d) $2(54 - x)$ e) $54 - 2x$

36. In the 1960 United States presidential election, John F. Kennedy received 84 more electoral votes than Richard M. Nixon. Together the two men received 522 electoral votes. How many votes did Kennedy receive?

a) 219 votes b) 251 votes c) 279 votes d) 303 votes e) 325 votes

37. Solve: $9r - 3 = 24$

a) $2\frac{1}{3}$ b) 3 c) $5\frac{2}{3}$ d) 8 e) 15

38. $7\frac{1}{4}$ is the same as _____.

a) 0.725% b) 7.025% c) 7.25% d) 725% e) 7250%

39. A rectangular prism has a volume of $30\,\text{cm}^3$, a height of 3 cm, and a width of 5 cm. Find the length of the base of the prism.

a) 2 cm b) 2.5 cm c) 3 cm d) 5 cm e) 22 cm

40. Which decimal would be the best example of the highest human body temperature, in degrees Fahrenheit, ever recorded?

a) 67.4 b) 115.7 c) 534.0 d) 1,123 e) 13,670

41. How many centimeters are there in 40 meters?

a) 4,000 cm b) 400 cm c) 4 cm d) 0.4 cm

42. Simplify: $4\frac{1}{2} \times 3\frac{1}{3}$

a) $12\frac{1}{6}$ b) 15 c) $15\frac{1}{3}$ d) $15\frac{2}{3}$ e) 16

43. What decimal is represented by the phrase "twenty-nine and thirty-one thousandths"?

a) 29.00031 b) 29.0031 c) 29.031 d) 29.31 e) 29.311

44. Find the probability that a roll of a die will show a 1 or 6.

a) $\frac{1}{6}$ b) $\frac{1}{3}$ c) $\frac{1}{2}$ d) $\frac{2}{3}$ e) $\frac{3}{4}$

45. The table gives the ages of the residents of a retirement home. Find the mode of the ages of the residents.

Tens	Units
9	1, 5
8	1, 1, 1, 3, 8
7	4, 7, 9
6	3, 3, 7
5	8, 9

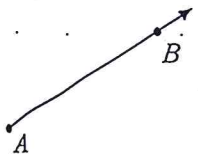
a) 58 b) 63 c) 74 d) 81 e) 95

46. Which of the following is a factor of 45?

a) 0 b) 5 c) 20 d) 25 e) 70

47. Using symbols, write a name for the given figure.

a) $\mathbf{AB}$ b) $\overrightarrow{\mathbf{AB}}$ c) $\odot\mathbf{AB}$ d) $\overleftrightarrow{\mathbf{AB}}$ e) $\overset{\frown}{\mathbf{AB}}$



48. The table shows the distribution of ages in a certain club. How many students are 15 or older?

a) 10 b) 17 c) 22 d) 25 e) 29

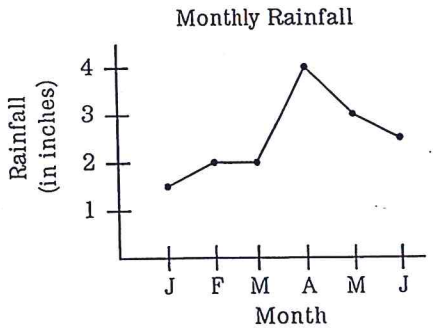
Age Distribution	
Age	*number of students*
13	2
14	9
15	10
16	7
17	8
18	4

49. Simplify: $\dfrac{24 - 6 \cdot 2}{8 + 16 \div 4}$

a) 0 b) 1 c) 2 d) 3 e) 6

50. What was the total monthly rainfall for the first four months shown (January, February, March, and April)?

a) 4 in. b) 6.5 in. c) 9.5 in. d) 12 in. e) 15 in.



Answer List

1. b	2. c	3. b
4. b	5. b	6. a
7. d	8. d	9. b
10. d	11. b	12. d
13. b	14. c	15. d
16. c	17. e	18. a
19. c	20. d	21. d
22. d	23. c	24. a
25. c	26. c	27. e
28. a	29. c	30. c
31. d	32. b	33. b
34. d	35. e	36. d
37. b	38. d	39. a
40. b	41. a	42. b
43. c	44. b	45. d
46. b	47. b	48. e
49. b	50. c	