

Penny Sikes 5th and 6th Grade Mathematics Tournament

Sponsored by Farmers and Merchants Bank

2014 5th Grade Individual Test

1. Make sure your name, the full name of your school, and your grade are written on the scantron.
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 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 scantron.
6. Each correct answer on the test will be counted as one point on your individual score.
7. If individual 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 test is over, please make sure you take your pencil, test, and scratch work with you. You will need the pencil for the ciphering rounds.

2014 Penny Sikes Math Tournament: 5th Grade Math Exam

Name: _____

Date: _____

1. The table below shows the final scores of 2 basketball games at 4 high schools.

BASKETBALL SCORES

High School	Game 1	Game 2
Harbor	63	66
Larson	67	65
Central	65	63
Eastside	71	60

Which of the following lists the high schools in order from the school with the *highest total* score to the school with the *lowest total* score?

- A. Harbor, Central, Eastside, Larson B. Larson, Eastside, Harbor, Central
 C. Harbor, Central, Larson, Eastside D. Larson, Eastside, Central, Harbor
2. What is the prime factorization of 200?
- A. $2^3 \times 5^2$ B. $2^2 \times 5^3$ C. $2^5 \times 5^2$ D. $2^5 \times 5^3$
3. Sasha's locker combination uses three composite numbers. Which of the following could be the combination?
- A. 4, 27, 39 B. 7, 11, 19 C. 9, 13, 21 D. 18, 26, 59
4. Each day, Michelle spends one and a half hours doing her homework and then watches TV for 30 minutes. She plays her Nintendo game for 1 hour and 15 minutes but has to stop in order to set the table for dinner. This is her normal routine for Monday through Friday, except that on Friday she does not have any homework assignments. How much time does Michelle spend on homework and playing Nintendo from Monday through Friday?
- A. 12 hours, 15 minutes B. 5 hours, 50 minutes
 C. 2 hours, 30 minutes D. 12 hours, 25 minutes

5. Which of the following fractions has the largest value?

A. $\frac{11}{25}$

B. $\frac{21}{50}$

C. $\frac{2}{5}$

D. $\frac{41}{100}$

6. Bike rental rates are listed as shown. Mark rented a bike on Monday, Tuesday, and Wednesday. He paid \$39 total rent. Which of the following shows the hours he could have rented the bike each of the 3 days?

Rental Rates	
Time	Price
1 hour	\$5
2 hours	\$9
4 hours	\$15
All Day	\$20

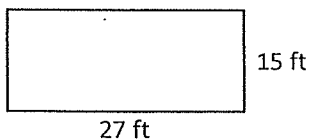
A. all day; 4 hours; 1 hour

B. all day; 2 hours; 1 hour

C. 2 hours; 1 hour; 2 hours

D. 2 hours; 4 hours; 4 hours

7. What is the area of the rectangle?



A. 9 yd^2

B. 32 yd^2

C. 36 yd^2

D. 45 yd^2

8. Ms. Green asked her class for volunteers to work at the school carnival. Each student could volunteer to do only one job. She had $\frac{1}{3}$ of the class volunteer to decorate, $\frac{1}{4}$ to serve food, and $\frac{1}{6}$ to clean up. Exactly what fraction of Ms. Green's students volunteered?

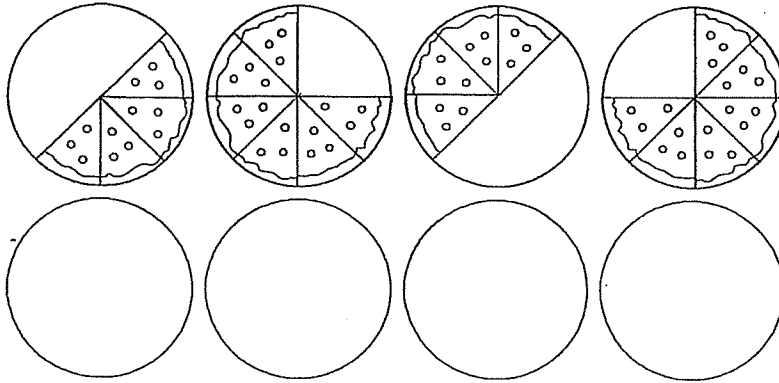
A. $\frac{1}{13}$

B. $\frac{3}{13}$

C. $\frac{3}{12}$

D. $\frac{9}{12}$

9. The soccer team ordered eight pizzas. The drawing shows the pizza left over.



How many pizzas were left over?

- A. $2\frac{1}{2}$ B. $3\frac{1}{4}$ C. $3\frac{3}{4}$ D. $5\frac{1}{2}$
10. Subtract:
- $$\frac{9}{16} - \frac{1}{4}$$
- A. $\frac{5}{16}$ B. $\frac{1}{2}$ C. $\frac{5}{8}$ D. $\frac{2}{3}$
11. If an equilateral triangle has integer sides, its perimeter cannot be
- A. 915 B. 615 C. 315 D. 115
12. What is the value of the expression below?
- $$2\frac{1}{4} \times 3\frac{1}{3}$$
- A. $7\frac{1}{2}$ B. $6\frac{1}{12}$ C. $5\frac{7}{12}$ D. $1\frac{13}{27}$
13. Canned milk is packed in cases of 24 cans. The whole case weighs 288 ounces. How much would $\frac{1}{4}$ of a case weigh?
- A. 72 ounces B. 60 ounces C. 48 ounces D. 6 ounces

14. An artist wants to paint a picture on a canvas where the length of the canvas is 6 more inches than twice the width. If the total perimeter of the canvas is 108 inches, what is the length of the canvas (in inches)?
- A. 16 B. 30 C. 38 D. 54
15. Karin was practicing her free throws. During one practice period she made 48 baskets and missed 12. What percent of the total shots did she make?
- A. 0.80% B. 20% C. 75% D. 80%
16. Bob has a total of \$41.00, consisting of an equal number of pennies, nickels, dimes, and quarters. How many coins does he have in all?
- A. 50 B. 100 C. 150 D. 200
17. Yesterday the train came at 8 AM, and today it came at 3 PM. How many hours passed between yesterday's and today's arrivals?
- A. 7 B. 19 C. 31 D. 35
18. Janae would like to buy a lip gloss and nail polish for each person coming to her party, at the prices given below.
- Lip gloss: \$2.75 each
 - Nail polish: \$1.79 each
- If Janae has 21 people coming to her party, what will be the total cost before tax is added?
- A. \$37.59 B. \$57.75 C. \$74.34 D. \$95.34
19. Which expression shows the first step in finding the value of $6 + 3(5 - 2)^2$?
- A. $6 + 3(3)^2$ B. $9(5 - 2)^2$ C. $6 + (15 - 2)^2$ D. $6 + 3(25 - 4)$

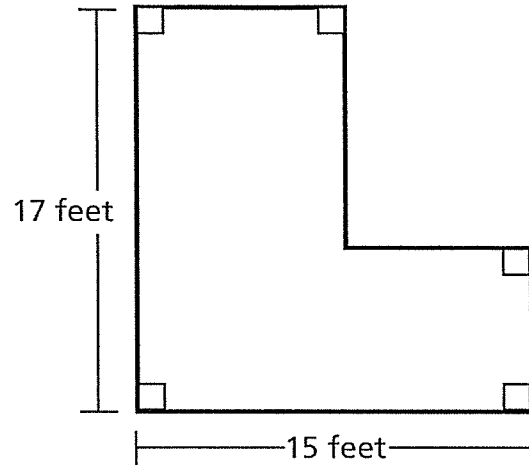
20. If today is Tuesday, what day was it 43 days ago?
- A. Sunday B. Monday C. Wednesday D. Thursday

21. Which fraction belongs in the box to make the number sentence true?

$$\boxed{} > \frac{2}{3}$$

- A. $\frac{1}{2}$ B. $\frac{3}{4}$ C. $\frac{2}{5}$ D. $\frac{5}{8}$
22. A rectangle with perimeter 20 has an area of at most
- A. 20 B. 25 C. 100 D. 400
23. What is 0.45831 rounded to the nearest thousandth?
- A. 0.45 B. 0.458 C. 0.459 D. 0.4583
24. Which is equivalent to $5\frac{2}{15}$?
- A. $5.1\bar{3}$ B. $5.\bar{13}$ C. 5.13 D. $5.\bar{3}$
25. Cammie rounded a length to 3.37 meters.
- Which length could be the actual length she measured?
- A. 3.372 meters B. 3.376 meters C. 3.382 meters D. 3.471 meters
26. What is the sum of the two smallest two-digit prime numbers?
- A. 5 B. 24 C. 28 D. 30

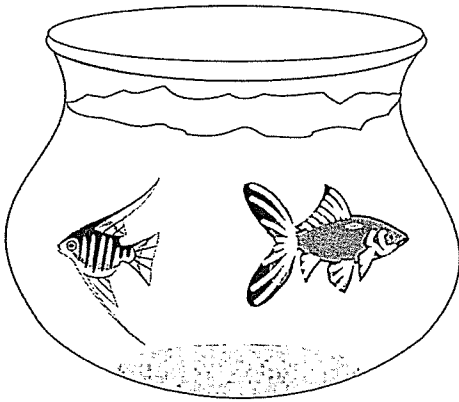
27. Look at the figure below.



What is the perimeter, in feet, of the figure?

- A. 32 feet B. 64 feet C. 96 feet D. 128 feet

28. Which is the *best* estimate of the volume of the fish bowl shown below?



- A. 10 milliliters B. 50 milliliters C. 2 liters D. 50 liters

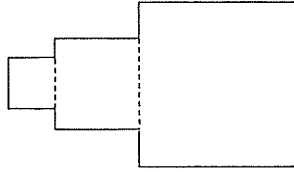
29. Kyle and his brother rode their bikes to the lake. They each drank 2 pints of water on the way to the lake and 1 cup each on the return trip. How many cups of water did they drink?

- A. 4 cups B. 5 cups C. 6 cups D. 10 cups

30. Courtney walks three laps around a $\frac{1}{4}$ -mile track. How many feet does she walk? [1 mi = 5280 ft]

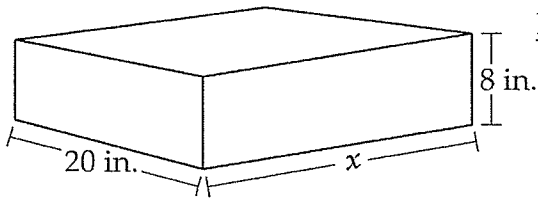
- A. 440 ft B. 1320 ft C. 3960 ft D. 7040 ft

31. The figure below is composed of squares with side lengths of 1, 2, and 3. What is the perimeter of the figure?



- A. 18 B. 20 C. 21 D. 22

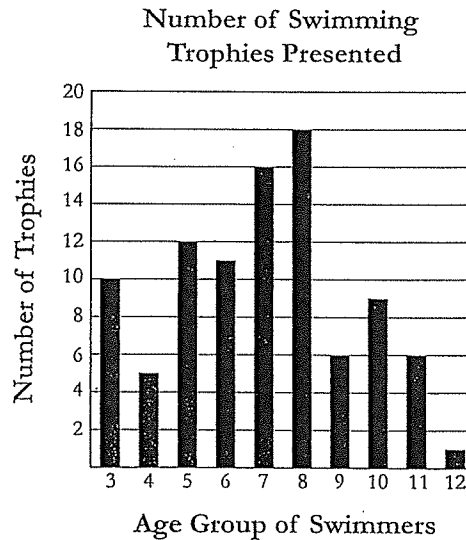
32. The rectangular solid below has a volume of 5,600 cubic inches, a width of 20 inches, and a height of 8 inches.



Note: The figure is not drawn to scale.

What is the length (x) of the rectangular solid?

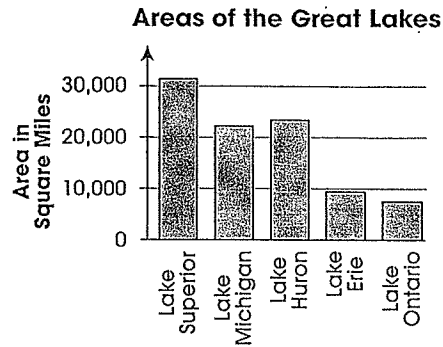
- A. 20 inches B. 35 inches C. 200 inches D. 280 inches
33. Use the bar graph below to answer the following question.



Which age group received twice as many trophies as the 4-year-olds?

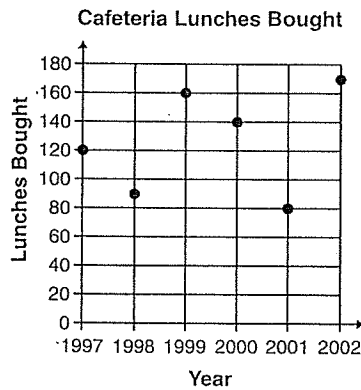
- A. 3-year-olds B. 5-year-olds C. 6-year-olds D. 10-year-olds

34. The areas in square miles of the Great Lakes are shown in the bar graph.



Based on this graph, which set of numbers is the closest to the total area of the five Great Lakes?

- A. between 70,000 and 80,000 square miles
 - B. between 80,000 and 90,000 square miles
 - C. between 90,000 and 100,000 square miles
 - D. between 100,000 and 110,000 square miles
35. The table below shows the average number of lunches bought in a cafeteria each day over a period of years.



The greatest decrease in the number of lunches bought occurred between which two years?

- A. from 1998 to 1999
- B. from 1999 to 2000
- C. from 2000 to 2001
- D. from 2001 to 2002

36. A group of people went fishing for four days. Together, they caught 20 pounds of fish each day.

Day 1

Fish	Part of Total Pounds
Tuna	$\frac{5}{20}$
Snapper	$\frac{3}{20}$
Flounder	$\frac{8}{20}$
Mackerel	$\frac{4}{20}$

Day 2

Fish	Part of Total Pounds
Tuna	$\frac{10}{20}$
Snapper	$\frac{1}{20}$
Flounder	$\frac{4}{20}$
Mackerel	$\frac{5}{20}$

Day 3

Fish	Part of Total Pounds
Tuna	$\frac{6}{20}$
Snapper	$\frac{6}{20}$
Flounder	$\frac{5}{20}$
Mackerel	$\frac{3}{20}$

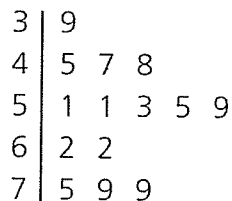
Day 4

Fish	Part of Total Pounds
Tuna	$\frac{4}{20}$
Snapper	$\frac{5}{20}$
Flounder	$\frac{3}{20}$
Mackerel	$\frac{8}{20}$

On which day was tuna 50% of the total catch?

- A. Day 1 B. Day 2 C. Day 3 D. Day 4
37. The stem and leaf plot below displays information about the number of people who attended the Saturday matinees at Oak Woods Theater for 14 weeks.

**SATURDAY MATINEES
AT OAK WOODS THEATER**



KEY
7 4 = 74

How many Saturdays had more than 50 people in attendance?

- A. 5 B. 7 C. 10 D. 13

40. Santos has a job after school. He earns \$8 per hour. Which equation will determine h , the number of hours he needs to work to earn \$44?

- A. $h - 8 = 44$ B. $8h = 44$ C. $8 + h = 44$ D. $\frac{h}{2} = 44$

41. Read the problem in the box below. Then answer the following question.

Grandpa gave his collection of 584 pennies to his 8 grandchildren. If each grandchild received the same number of pennies, how many pennies did each child get?

Which computation can be used to solve the problem?

- A. $584 \times 8 = \square$ B. $584 \div 8 = \square$ C. $584 + 8 = \square$ D. $584 - 8 = \square$

42. Which story problem can be solved using the number sentence $2 \times n = 18$?

- A. Tom had 18 pencils. He gave n pencils away and had 2 left over. How many pencils did Tom give away?
- B. Alice bought n books and spent \$18. Each book cost \$2. How many books did Alice buy?
- C. Maya had n rocks and 2 baskets. She put 18 rocks in each basket. How many rocks did Maya have?
- D. Pedro saw 2 kinds of birds. He saw 18 robins and n crows. How many crows did Pedro see?

43. Jeff recorded his bowling scores for 8 games.

104, 122, 142, 136, 155, 138, 142, 95

What is the median of Jeff's scores?

- A. 60 B. 137 C. 140 D. 142

44. Look at the data set.

84, 98, 88, 76, 86, 99, 84, 89

What is the mode of the data set?

- A. 81 B. 84 C. 87 D. 88

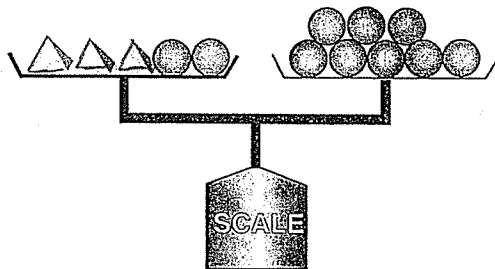
45. The number of absences for each student in Mr. Cali's class are shown in the table below.

Number of Absences

Student	Absences
Erica P.	4
Allen L.	3
Deborah R.	4
Cameron A.	5
Ali R.	4
Thomas S.	1
Ari B.	8
Curtis D.	3
Shedwan L.	2
Latoya J.	1
Paolo F.	3
Maria T.	2

What is the *range* of the number of absences for Mr. Cali's students?

- A. 3 B. 7 C. 8 D. 12
46. Hannah's mean score on four mathematics tests is 92.75. What is the sum of the scores of Hannah's four tests?
- A. 368 B. 370 C. 371 D. 372
47. The scale below is balanced.



Which sentence is true?

- A. =
- B. =
- C. =
- D. =

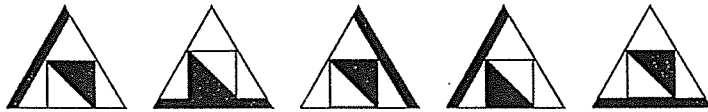
48. Look at the pattern below.

8, 15, 29, 57, ...

Which rule represents this pattern?

- A. Add 7 to the previous number.
- B. Add 14 to the previous number.
- C. Multiply the previous number by 2 and add 1.
- D. Multiply the previous number by 2 and subtract 1.

49. These figures form a pattern.



Which of the figures below *best* continues the pattern?



50. Lynn ran a marathon in 3 hours, 9 minutes, and 18 seconds. Amy ran the same marathon in 2 hours, 59 minutes, and 11 seconds. How much more time did it take Lynn than Amy?

- A. 9 minutes and 57 seconds
- B. 10 minutes and 7 seconds
- C. 1 hour, 10 minutes, and 3 seconds
- D. 1 hour, 50 minutes, and 3 seconds

PENNY SIKES MATH TOURNAMENT

5TH GRADE TEST ANSWER KEY

1	B
2	A
3	A
4	A
5	A
6	D
7	D
8	D
9	A
10	A
11	D
12	A
13	A
14	C
15	D
16	B
17	C
18	D
19	A
20	B
21	B
22	B
23	B
24	A
25	A

26	B
27	B
28	C
29	D
30	C
31	A
32	B
33	A
34	C
35	C
36	B
37	C
38	C
39	B
40	B
41	B
42	B
43	B
44	B
45	B
46	C
47	B
48	D
49	A
50	B