

Penny Sikes 5<sup>th</sup> and 6<sup>th</sup> Grade Mathematics Tournament  
Sponsored by Farmers and Merchants Bank

2010 5<sup>th</sup> 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 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 scantron.
- 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.

Penny Sikes Fifth and Sixth Grade Mathematics Tournament  
Southeast Bulloch High School April 10, 2010

Fifth Grade Written Test 2010

Name \_\_\_\_\_

1. Write 13042 in expanded notation.

- (a)  $(1 \times 10000) + (0 \times 1000) + (3 \times 100) + (4 \times 10) + 2$
- (b)  $(1 \times 1000) + (0 \times 100) + (4 \times 10) + 2$
- (c)  $(1 \times 10000) + (3 \times 1000) + (0 \times 100) + (4 \times 10) + 2$
- (d)  $(1 \times 10000) + (3 \times 1000) + (0 \times 100) + (4 \times 10)$

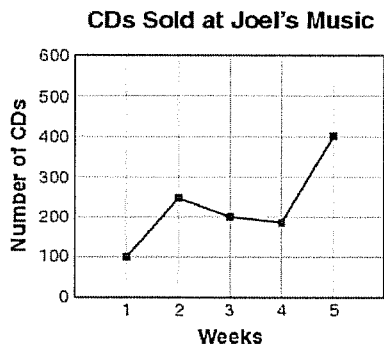
2. Add  $5\frac{3}{4}$  and  $7\frac{1}{4}$

- (a) 12
- (b)  $2\frac{1}{2}$
- (c)  $13\frac{1}{4}$
- (d) 13

3. Of the following, which is between  $\frac{1}{2}$  and  $\frac{3}{4}$ ?

- (a) 0.2
- (b) 0.4
- (c) 0.6
- (d) 0.8

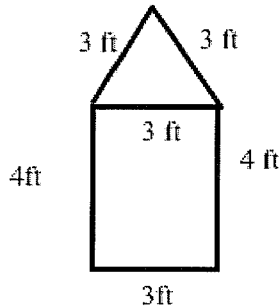
4. The following graph shows the number of CDs sold at a music store over a 5 week period.



Which of the following statements about the music sold is not true?

- (a) More CDs were sold in week 4 than week 1
- (b) Half as many CDs are sold in week 1 as are sold in week 3
- (c) The same number of CDs were sold in week 3 and week 5
- (d) Week 2 had the 2<sup>nd</sup> highest number of CDs sold during the 5 week period

5. What is the perimeter of this pentagon?



- (a) 17 ft      (b)  $17 \text{ ft}^2$       (c) 20 ft      (d)  $20 \text{ ft}^2$

6. Kelly is building a circular pen to hold all the bunnies and baby chicks that she got for Easter. If the radius of the pen is 4 feet, how many feet of fence should she buy to the nearest foot? (Use  $\pi = 3.14$ )

- (a) 13 feet      (b) 26 feet      (c) 51 feet      (d) 201 feet

7. Alex is making lemonade for his class. One tablespoon of lemonade mix makes 1 pint of lemonade. If he wants to make 3 gallons of lemonade, how many tablespoons of mix will he need?

- (a) 24      (b) 48      (c) 12      (d) 6

8. If 4 out of 5 dentists recommend sugarless gum, what percent of dentist do not recommend sugarless gum?

- (a) 80%      (b) 40%      (c) 20%      (d) 10%

9. An aquarium is in the shape of a rectangular prism. The base of the aquarium is 12 inches X 18 inches and it is 12 inches high. How much water will the aquarium hold?

- (a) 1296 cubic inches      (b) 1728 cubic inches      (c) 2592 cubic inches      (d) 5832 cubic inches

10. Mrs. Crocker has  $2 \frac{1}{4}$  cups of sugar. Her cookie recipe calls for  $\frac{2}{3}$  cup of sugar. After she makes a batch of cookies, how much sugar will she have left?

- (a)  $1 \frac{3}{7}$  cups      (b)  $1 \frac{7}{12}$  cups      (c)  $2 \frac{3}{7}$  cups      (d)  $2 \frac{11}{12}$  cups

11. Which of the numbers below is all of these?

- A multiple of 2
- A multiple of 3
- A multiple of 9
- A 3 digit number

(a) 36      (b) 138      (c) 522      (d) 243

12. The candy company can fit 5 milk duds in a cubic inch box. If they want to package the candies in boxes that are 4 inches on each side, how many milk duds will that package hold?

(a) 16      (b) 64      (c) 80      (d) 320

13. Multiply  $6.5 \times 8.93 =$

(a) 5.8045    (b) 58.045    (c) 580.45    (d) 58,045

14. What is 0.25% of 100?

(a) 0.25      (b) 2.5      (c) 25      (d) 250

15. For the following set of data, state the (1) mean (2) median and (3) mode in that order.

5, 5, 14, 16, 20

- (a) 14,12,5  
(b) 12,14,5  
(c) 12, 14, 20  
(d) 14, 12, 20

16. Simplify:  $3\frac{5}{6} + 2\frac{1}{4} \times 1\frac{2}{3}$

(a)  $7\frac{7}{12}$       (b)  $10\frac{5}{36}$       (c)  $5\frac{2}{3}$       (d)  $13\frac{1}{3}$

17. What is the value of  $n$  if 12% of  $n$  is 15?

(a)  $\frac{5}{4}$     (b) 15    (c) 125    (d) 200

18. Evaluate the following:  $12 + 9 \div 3 - 2 \times 3$

- (a) 9      (b) 1      (c) 15      (d) 63

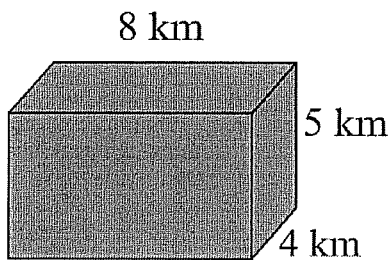
19. The Ogeechee Fair charges 5.00 for entrance and \$0.50 for each ride ticket. If the expression  $5 + .5x$  represents the cost per person, what does the variable  $x$  represent?

- (a) the number of people at the fair  
(b) the number of tickets one person buys  
(c) the total number of tickets sold  
(d) the total money earned at the fair

20. What set of numbers includes only factors of 24?

- (a) 2,4,6,8,10,12  
(b) 2,3,6,8,16,24  
(c) 1,2,3,6,8,24  
(d) 1,2,3,12,24,48

21. What is the volume of this solid figure?



- (a) 100 cubic km    (b) 150 cubic km    (c) 160 cubic km    (d) 184 cubic km

22. Jim's age is represented by the expression  $2x + 5$  where  $x$  represents his friend Joe's age. If Joe is 4 years old, what is the total of the ages of Jim and Joe?

- (a) 13      (b) 17      (c) 29      (d) 33

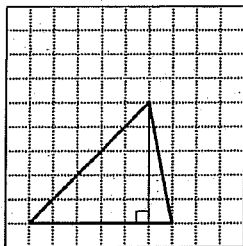
23. Lacey is painting a wall that is 10 feet by 12 feet. One gallon of paint can cover 20 square feet of the wall. If the wall has a window in it that is 4 feet by 5 feet, how many gallons of paint will be needed to paint the wall?

- (a) 6      (b) 5      (c) 120      (d) 20

24. A \$5 roll of dimes has how many more coins than a \$10 roll of quarters?

- (a) 0      (b) 2      (c) 5      (d) 10

25. Each small square in the grid is 1 unit by 1 unit. Find the area of the triangle.



- (a) 30 square units    (b) 32 square units    (c) 15 square units    (d) 11 square units

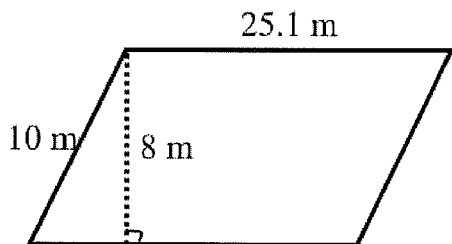
26. A water tank is  $\frac{1}{2}$  full. If 200 gallons are added to the tank, it would be full. How many gallons are in the tank when it is full?

- (a) 100 gallons    (b)  $200\frac{1}{2}$  gallons    (c) 300 gallons    (d) 400 gallons

27. There are 3 times as many girls as boys in a PE class. The PE class has 24 students. How many of those students are boys?

- (a) 6    (b) 8    (c) 16    (d) 18

28. What is the area of this parallelogram?



- (a)  $40 \text{ m}^2$     (b)  $80 \text{ m}^2$     (c)  $200.8 \text{ m}^2$     (d)  $251 \text{ m}^2$

29. A survey asked teens to name their favorite sport. Of the 100 asked,  $\frac{3}{10}$  chose soccer,  $\frac{1}{5}$  chose track,  $\frac{3}{20}$  chose swimming,  $\frac{8}{25}$  chose gymnastics, and  $\frac{3}{100}$  chose golf. How many teens chose gymnastics as their favorite sport?

- (a) 100    (b) 30    (c) 8    (d) 32

30. For which set of data are the mean and median the same?

- (a) 7, 3, 5, 3, 2
- (b) 5, 2, 1, 1, 6
- (c) 3, 9, 8, 4, 6
- (d) 7, 2, 6, 4, 6

31. In ABC Elementary School,  $\frac{1}{2}$  of all fifth-graders play a sport. Three-fourths of those students are on the honor roll. What fraction of all the fifth-graders play a sport and are on the honor roll?

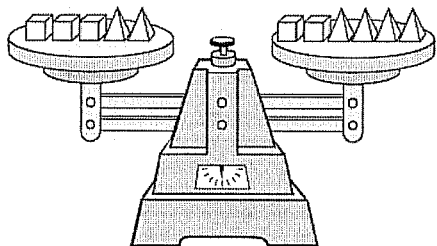
- (a)  $\frac{1}{2}$
- (b)  $\frac{3}{4}$
- (c)  $\frac{1}{4}$
- (d)  $\frac{3}{8}$

32. Divide. Give your answer in simplest form.  $\frac{5}{6} \div \frac{2}{3}$

- (a)  $\frac{4}{5}$
- (b)  $\frac{5}{9}$
- (c)  $1\frac{3}{12}$
- (d)  $1\frac{1}{4}$

33. Each pyramid on the scale weighs 15 pounds. All cubes have equal weights. What does each cube weigh?

- (a) 15 pounds
- (b) 20 pounds
- (c) 30 pounds
- (d) 60 pounds



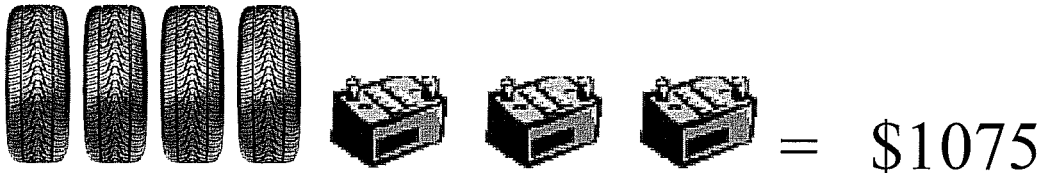
34. The height of a triangle is 5 units more than  $b$ , its base. Which expression represents the area of the triangle?

- (a)  $b(b + 5)$
- (b)  $b(5b)$
- (c)  $\frac{1}{2} b(b - 5)$
- (d)  $\frac{1}{2} b(b + 5)$

35. Widget Industries had stock that sold at  $30\frac{1}{8}$ . After a takeover bid, the stock rose  $4\frac{1}{4}$  points. What was the new price?

- (a)  $34\frac{3}{8}$  points
- (b)  $34\frac{1}{8}$  points
- (c)  $26\frac{1}{8}$  points
- (d)  $25\frac{7}{8}$  points

36. There is an advertisement in an auto parts store:



How much is a tire?

- (a) \$125                      (b) \$350                      (c) \$250                      (d) \$175

37. Josie can bake 2 cakes every hour. If she works for 5 hours per day for 5 days per week, how many cakes will she bake in three weeks?

- (a) 30                      (b) 50                      (c) 70                      (d) 150

38. At Beachfront Bike Rentals there is an hourly fee for renting a bike plus a required \$2 helmet fee. If it costs \$13.25 to rent a bike for 3 hours, how much would it cost to rent one for 6 hours?

- (a) \$22.50      (b) \$24.50      (c) \$26.50      (d) \$28.50

39. What number belongs in the box in the sequence below:

3, 8, 18, 38, , 158

- (a) 78      (b) 76      (c) 58      (d) 68

40. Which of the following expressions is equal to 5?

- (a)  $5 + 3 - (4 + 1)$   
(b)  $5 + (3 - 1) + 4$   
(c)  $(5 + 3) - (1 + 4)$   
(d)  $(5 + 3) - (4 - 1)$

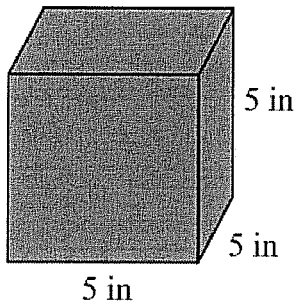
41. Alice read one quarter of her book. If her book had 252 pages, what expression would find the number of pages left to read?

- (a)  $252 \div 4$       (b)  $252 \div \frac{1}{4}$       (c)  $252 - \left(252 \times \frac{1}{4}\right)$       (d)  $252 - \left(252 \div \frac{1}{4}\right)$

42. A rope 32 feet long is to be cut into pieces that are  $\frac{1}{8}$  of a foot long. How many pieces can be obtained?

- (a) 256 pieces      (b) 2000 pieces      (c) 320 pieces      (d) 4 pieces

43. What is the surface area of this cube?



- (a) 100 square in      (b) 125 square in      (c) 150 square in      (d) 175 square in

44. Use the following rule to make pairs of numbers  $(x,y)$ .

$$y = x - 4$$

Which of the following pairs follows the rule above?

- (a)  $(7,2)$       (b)  $(9,5)$       (c)  $(10,1)$       (d)  $(11,8)$

45. What is 26% of 39?

- (a) 1.014      (b) 10.14      (c) 14.72      (d) 28.86

46. Jim's paycheck earnings vary directly with his number of hours worked. If he worked 19 hours and earned 187.15, how much did he earn for 40 hours of work?

- (a) \$394.00      (b) \$443.25      (c) \$472.80      (d) \$512.20

47. The table below shows the relationship between A, the area of a triangle, and b, the length of its base while the height remains the same.

h	2	5	7	12
A	8	20	28	48

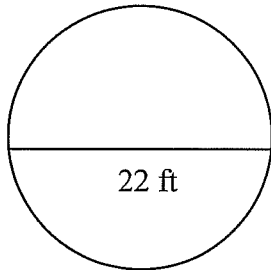
Which equation represents the relationship between h and A?

- (a)  $A = h + 6$
- (b)  $A = 3h + 2$
- (c)  $A = 4h$
- (d)  $A = 2h + 4$

48. What is the least common multiple (LCM) of 8 and 10?

- (a) 2
- (b) 16
- (c) 40
- (d) 80

49. Find the area of the circle.



- (a)  $44\pi \text{ ft}^2$
- (b)  $121\pi \text{ ft}^2$
- (c)  $484\pi \text{ ft}^2$
- (d)  $11\pi \text{ ft}^2$

50. One day, 20% of the students at Ridge School went to the zoo. That left 240 students at school for the day. How many students went on the field trip?

- (a) 24
- (b) 48
- (c) 72
- (d) 60

Fifth Grade Written Test Answers 2010:

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