

Penny Sikes 5th and 6th Grade Mathematics Tournament

Sponsored by Farmers and Merchants Bank

2012 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 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.

2012 Penny Sikes Math Tournament 5th Grade Exam

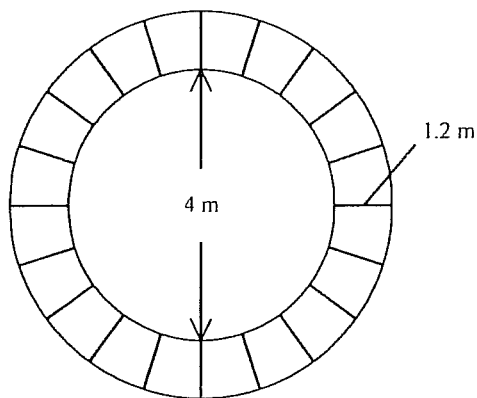
1. Carlos wants to buy a CD player for \$99. If he has \$30 now and plans to save \$5 per week, how long will it take him to save enough money?

[A] 14 weeks [B] 15 weeks [C] 19 weeks [D] 20 weeks

2. A dress usually sells for \$88. The sale price is 70% of the usual price. What is the sale price?

[A] \$26.40 [B] \$87.30 [C] \$61.60 [D] \$81.00

3. The figure below represents the overhead view of a deck surrounding a hot tub. What is the area of the deck? Use $\pi \approx 3.14$.



[A] 32.154 sq m [B] 116.054 sq m [C] 19.594 sq m [D] 12.56 sq m

4. A will divided a person's estate into 10 equal shares. Jason received $\frac{4}{5}$ of the estate. How many tenths did Jason receive?

[A] $\frac{4}{10}$ [B] $\frac{8}{10}$ [C] $\frac{7}{10}$ [D] $\frac{1}{10}$

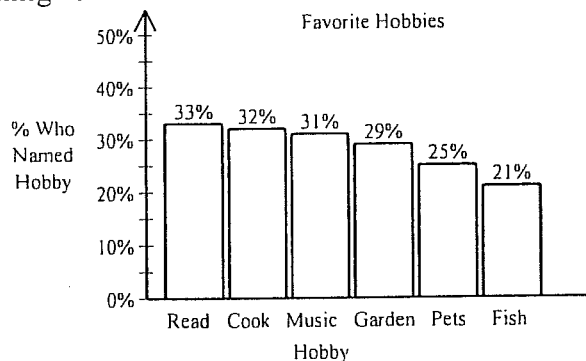
5. Multiply. $\frac{2}{7} \times \frac{3}{7} \times \frac{21}{196}$ [A] $\frac{9}{14}$ [B] $\frac{126}{1372}$ [C] $\frac{9}{686}$ [D] $\frac{9}{98}$

6. You are buying supplies for a birthday party. You figure that a 2-liter bottle of juice will serve 7 guests. How many 2-liter bottles will you need if you invite 84 guests?

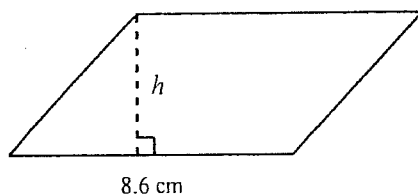
[A] 6 [B] 12 [C] 24 [D] 14

7. A feature film runs 2 hours and 14 minutes. The theater requires 10 minutes between performances and has 9 minutes of previews and short subjects to show before the feature. If the first showing begins with previews at exactly 4:00 P.M., when will the third showing of the feature end?
 [A] 11:29 P.M. [B] 10:29 P.M. [C] 11:20 P.M. [D] 11:39 P.M.
8. Simplify if possible. $16 - 7\frac{3}{8}$ [A] $9\frac{3}{8}$ [B] $9\frac{5}{8}$ [C] $8\frac{3}{8}$ [D] $8\frac{5}{8}$
9. Arrange in order of increasing magnitude and write using the < sign:
 7.03 7.033 7.003
 [A] $7.033 < 7.03 < 7.003$ [B] $7.003 < 7.033 < 7.03$
 [C] $7.033 < 7.003 < 7.03$ [D] $7.003 < 7.03 < 7.033$
10. So far in math class, your test scores are 86, 83, 74, and 71. What score do you need on the fifth test to get an average or mean of 80?
 [A] 86 [B] 87 [C] 78.5 [D] 80
11. Which shows the order of numbers from least to greatest? $\frac{1}{2}, \frac{1}{3}, \frac{1}{4}, 0.2, 0.3, 0.4$
 [A] $0.2, \frac{1}{2}, 0.3, \frac{1}{3}, 0.4, \frac{1}{4}$ [B] $0.4, 0.3, 0.2, \frac{1}{4}, \frac{1}{3}, \frac{1}{2}$
 [C] $\frac{1}{4}, 0.4, \frac{1}{3}, 0.3, \frac{1}{2}, 0.2$ [D] $0.2, \frac{1}{4}, 0.3, \frac{1}{3}, 0.4, \frac{1}{2}$
12. Sadie and Alec surveyed their classmates to find out what kinds of activities they were involved in after school. Of 28 students in the class, 7 took music lessons, 14 belonged to a scout or guide troop, 17 played at least one sport, and 9 baby-sat. If there were 112 students in the school, about how many would you expect to be active in each of these ways?
 [A] 28 take music lessons, 56 are scouts or guides, 68 play a sport, and 36 baby-sit.
 [B] 56 take music lessons, 28 are scouts or guides, 68 play a sport, and 36 baby-sit.
 [C] 68 take music lessons, 28 are scouts or guides, 56 play a sport, and 36 baby-sit.
 [D] 56 take music lessons, 28 are scouts or guides, 36 play a sport, and 68 baby-sit.
13. Multiply: 0.581×0.15 [A] 0.008715 [B] 87.15 [C] 8.715 [D] 0.08715

14. In a survey, 200 people were asked to name one to three favorite hobbies. The 6 most popular are shown in the bar graph below. Find the number of people who named gardening as their favorite.



- [A] 35 named gardening [B] 50 named gardening
 [C] 58 named gardening [D] 88 named gardening
15. A jumbo jet carries 300 passengers, 34 in first class, and the remainder in coach. If the average first class ticket is \$950 and the average coach ticket is \$508, how much will the airline gross if the plane is full?
- [A] \$269,972 [B] \$167,428 [C] \$170,088 [D] \$218,700
16. What are the mean, median, and mode of the following data?
 10, 19, 6, 7, 7, 7, 11, 7, 26, 20
- [A] 8.5, 12, 7 [B] 12, 8.5, 7 [C] 22.5, 12, 7 [D] 12, 7, 8.5
17. Round 0.673451 to the tenths place.
- [A] 0.67 [B] 0.6 [C] 0.7 [D] 0.68
18. If the area of the parallelogram is 51.6 sq cm, find the height.

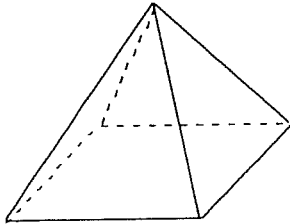


- [A] 43 cm [B] 45.6 cm [C] 6 cm [D] 8 cm
19. Your bill at the grocery store is \$16.80. You give the cashier \$17. How many ways can you be given change?
- [A] 8 ways [B] 7 ways [C] 9 ways [D] 10 ways

20. Which is equivalent to the number given? $3\frac{7}{8}$
- [A] 3.85 [B] 3.785 [C] 3.78 [D] 3.875

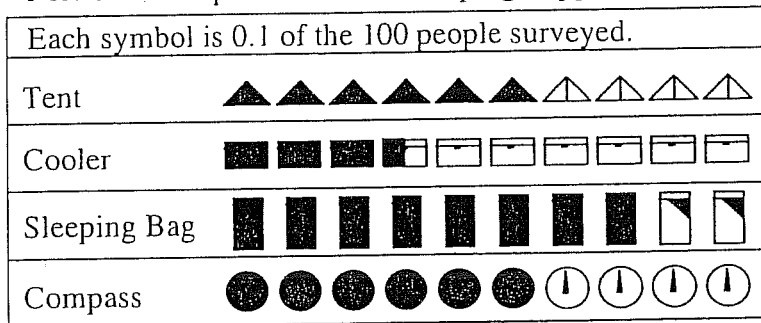
21. Add: $3\frac{2}{3} + 4\frac{3}{10}$ [A] $12\frac{1}{5}$ [B] $7\frac{1}{30}$ [C] $7\frac{29}{30}$ [D] $7\frac{5}{13}$

22. Find the number of vertices, faces, and edges for the figure below.



- [A] 5 vertices, 6 faces, 8 edges [B] 8 vertices, 5 faces, 5 edges
 [C] 5 vertices, 5 faces, 8 edges [D] 6 vertices, 6 faces, 9 edges

23. Portion of People Who Own Camping Supplies



One hundred people were asked which type of camping supplies they own. Estimate the portion that said that they own a cooler.

- [A] 3 tenths or 0.30 said they own a cooler
 [B] 6.5 tenths or 0.65 said they own a cooler
 [C] 8 tenths or 0.80 said they own a cooler
 [D] 3.5 tenths or 0.35 said they own a cooler

24. Add: 26.954 [A] 27.723 [B] 277.23 [C] 34.644 [D] 34.554
 + 7.69

25. Michael's softball team won about 56% of the 45 games they played. How many games did they win?

- [A] 25 games [B] 27 games [C] 20 games [D] 23 games

26. Which of the following is the stem-and-leaf plot for the data?
57, 48, 30, 53, 25, 59, 26, 31, 34, 52, 49, 25, 47, 28, 31

- [A]

2	5 5 6 8
3	0 1 1 4
4	7 8 9
5	2 3 7 9

 [B]

20	2 3 7 9
30	7 8 9
40	0 1 1 4
50	5 5 6 8

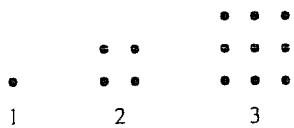
 [C]

20	5 5 6 8
30	0 1 1 4
40	7 8 9
50	2 3 7 9

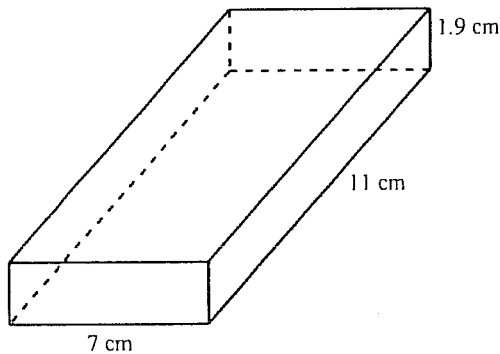
 [D]

2	2 3 7 9
3	7 8 9
4	0 1 1 4
5	5 5 6 8

27. How many dots will be in the eighth figure? [A] 81 [B] 49 [C] 64 [D] 16



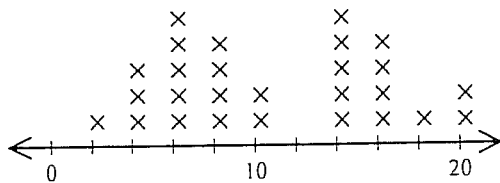
28. Find the volume of the rectangular prism.



- [A] 97.9 cu cm [B] 111.2 cu cm [C] 146.3 cu cm [D] 79.6 cu cm

29. Solve. $2x + 1 = 7$ [A] 5 [B] 4 [C] 3 [D] 8

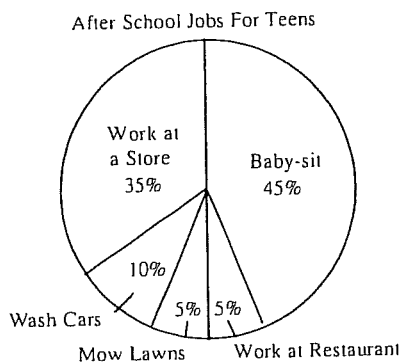
30. The line plot below represents the number of movies seen in a year by middle school students. Each x represents 10 students. How many students saw 10 or fewer movies?



- [A] 180 students [B] 140 students [C] 150 students [D] 15 students
31. Simplify if possible. $\frac{2}{3} - \frac{1}{2}$ [A] $\frac{1}{3}$ [B] $\frac{1}{4}$ [C] $\frac{1}{6}$ [D] $\frac{1}{2}$
32. Write the fraction in simplest form. $\frac{27}{51}$ [A] $\frac{3}{8}$ [B] $\frac{18}{27}$ [C] $\frac{9}{17}$ [D] $\frac{27}{51}$
33. Evaluate $(2a \times 3 + 4) - 9b$ if $a = 15$ and $b = 1$.
 [A] 85 [B] 471 [C] 86 [D] 219
34. Kevin bought 77 candies for \$24.64. What was the price for each candy?
 [A] \$0.35 [B] \$0.42 [C] \$0.29 [D] \$0.32
35. Loretta's age in 13 years will be three times what it was 5 years ago. How old is Loretta now?
 [A] 9 [B] 14 [C] 21 [D] 30
36. Convert 465 centimeters to meters.
 [A] 0.465 m [B] 4.65 m [C] 46,500 m [D] 4650 m
37. Write 66% as a decimal. [A] 0.0066 [B] 0.066 [C] 0.66 [D] 6.6
38. Before any taxes were added, a new car had a sticker price of \$35,411.6. This included the base price, plus \$5578.00 worth of options and \$590.00 for the dealer to prepare the car. What was the base price of the car?
 [A] \$41,579.6 [B] \$29,243.6 [C] \$30,423.6 [D] \$6168.00

43. A park has a circular swimming pool. The diameter of the pool is 25 ft. What is the distance traveled if you swim around the edge of the pool once? Use $\pi \approx 3.14$.
- [A] 235.62 ft [B] 78.50 ft [C] 50 ft [D] 157.08 ft

44. Use the circle graph. It shows jobs held by 300 teenagers.



How many teenagers held jobs baby-sitting?

- [A] 100 [B] 150 [C] 90 [D] 135
45. Your father has a stock that is listed for \$70 a share and his sister has one that is valued at \$130 a share. Each week your father's stock goes up \$4 a share but his sister finds that her stock loses \$8 a share each week. How long will it be before your father's stock has the same value as his sister's?
- [A] 6 weeks [B] 7 weeks [C] 5 weeks [D] 4 weeks
46. Write $\frac{27}{1000}$ as a decimal. [A] 0.2700 [B] 0.0027 [C] 0.027 [D] 2.7
47. Ryan plans to paint a solid cube that has an edge of 10 feet. What is the surface area of the cube?
- [A] 300 ft² [B] 600 ft² [C] 1000 ft² [D] 100 ft²
48. Franco went to the mall with his friends. He spent half of the money he took with him on videos and one-fourth of the remaining money on lunch. If he spent \$6.50 on lunch, how much money did he take with him?
- [A] \$32.50 [B] \$26.00 [C] \$39.00 [D] \$52.00

49. Find the missing terms in the pattern below.

2, 4, 8, 14, 22, 32, _____, 58, 74, _____, 112

[A] 44, 93

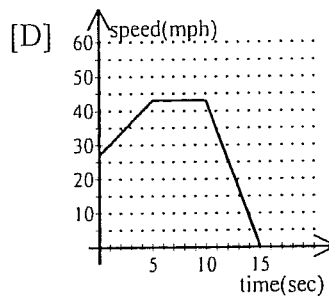
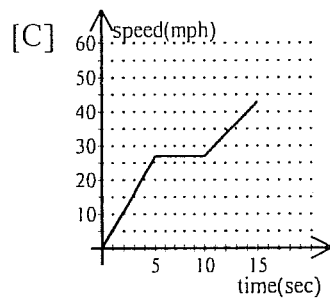
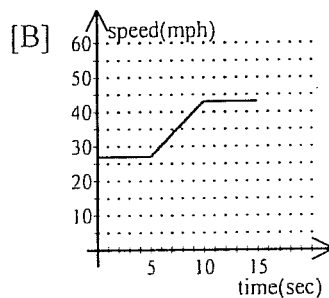
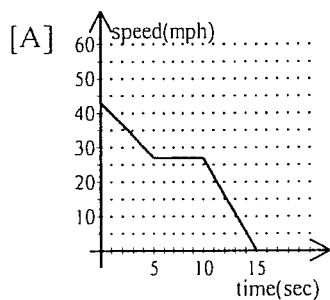
[B] 45, 93

[C] 45, 92

[D] 44, 92

50. Which graph below would match the situation described?

A car is traveling at 43 mph slows to 27 mph in the first 5 seconds. It maintains that speed for the next 5 seconds, and then slows to a stop in the next five seconds.



2012 Penny Sikes Math Tournament 5th Grade Exam

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