

Penny Sikes 5th and 6th Grade Mathematics Tournament

Sponsored by Farmers and Merchants Bank

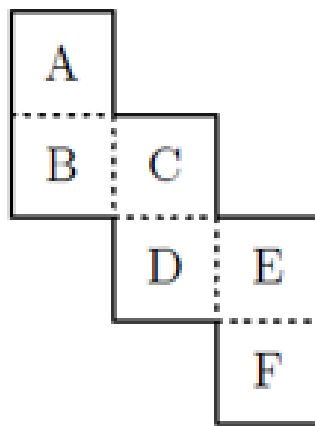
2014 6th Grade Individual Test

- 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.

1. A certain map uses a scale of 1 inch equals 25 miles. How many miles are represented by 5 inches on the map?

- (a) 5 (b) 25 (c) 50 (d) 125

2. When the diagram shown below is folded to form a cube, what letter is opposite the face marked F?



- (a) A (b) B (c) C (d) D

3. There are 190 guests at a wedding. What is the least number of circular tables needed to seat all the guests if each table seats exactly 8 people?

- (a) 22 (b) 23 (c) 24 (d) 25

4. If it was two hours later, it would be half as long until midnight as it would be if it was an hour later. What time is it now?

- (a) 8:00 PM (b) 8:30 PM (c) 9:00 PM (d) 10:00 PM

5. The original price of a new bicycle is \$138.00. If the bicycle is marked down 15%, what is the new price?

- (a) \$20.70 (b) \$117.30 (c) \$123.00 (d) \$153.00

6. A group of hikers hiked from Salt Flats (elevation -55 feet) to Talon Bluff (elevation 620 feet). What is the difference in elevation between the two cities?

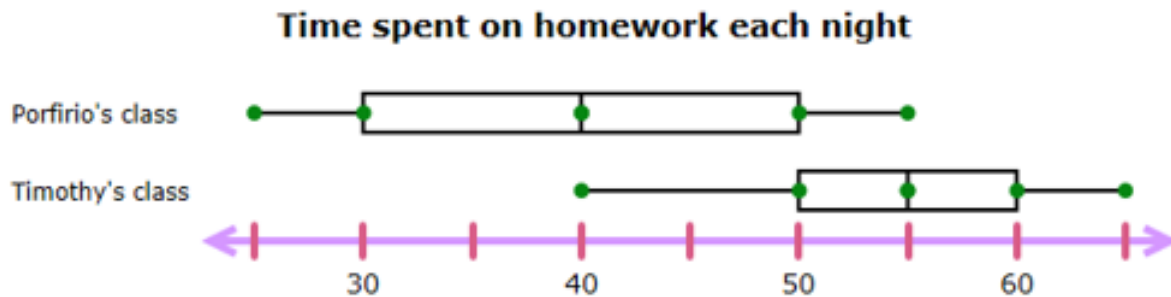
- (a) 565 feet (b) 575 feet (c) 665 feet (d) 675 feet

7. What is the solution to the equation shown below?

$$4w = \frac{2}{3}$$

- (a) $w = \frac{1}{6}$ (b) $w = \frac{2}{7}$ (c) $w = \frac{8}{3}$ (d) $w = 3\frac{1}{3}$

8. Which class has the larger range and what is that range?

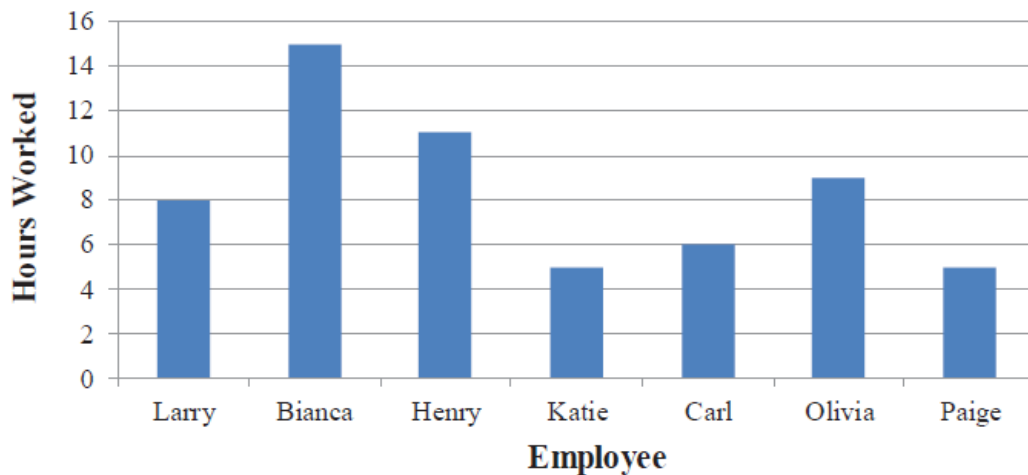


- (a) Porfirio's class with a range of 30 (b) Porfirio's class with a range of 55
(c) Timothy's class with a range of 25 (d) Timothy's class with a range of 65

9. Brittany has taken four math tests and has a test average of 78. What will she need to make on her next test so that her test average is 80?

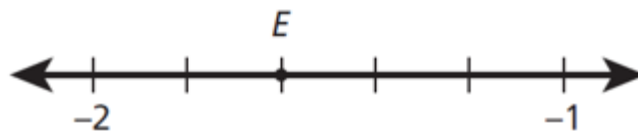
- (a) 90 (b) 88 (c) 84 (d) 82

10. The graph below shows the number of hours different employees worked in a day. Use the graph to determine the median number of hours worked.



- (a) 5 hours (b) 11 hours (c) 8 hours (d) 15 hours

11. Which number best represents the location of the point E on the number line below?



- (a) -1.8 (b) -1.6 (c) -1.5 (d) -1.3

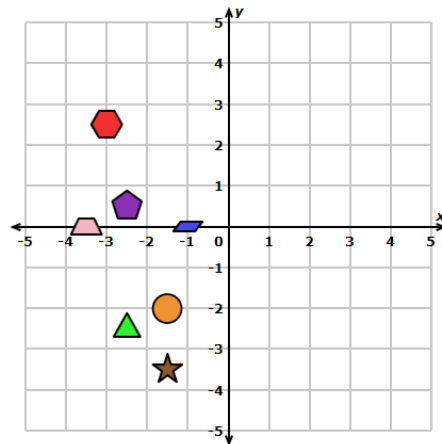
12. Last week, Aura's Ice Creamery sold 22 sundaes with nuts and 28 sundaes without nuts. What is the ratio of the number of sundaes without nuts to the number of sundaes with nuts?

- (a) 11:14 (b) 14:25 (c) 11:25 (d) 14:11

13. What is the greatest common factor of $6 \times 7 \times 8 \times 9$ and $7 \times 8 \times 9 \times 10$?

- (a) $7 \times 8 \times 9$ (b) $6 \times 7 \times 8 \times 9$
(c) $2 \times 7 \times 8 \times 9$ (d) $2 \times 3 \times 5 \times 7 \times 8 \times 9$

14. What are the coordinates of the triangle, rounded to the nearest 0.5.



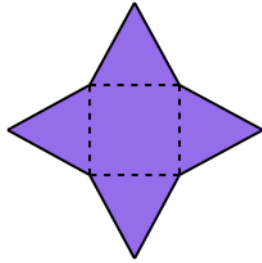
- (a) (-2.5, 2.5) (b) (2.5, -2.5) (c) (-2.5, -2.5) (d) (-2.5, .5)

15. How many magazines had at least 70 pages but less than 90 pages?

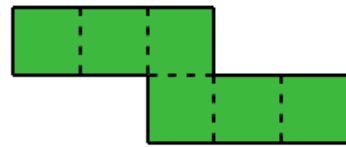
Pages per magazine	
Stem	Leaf
2	7
3	3 5 8
4	2 2 9
5	0 7
6	3 3 4 9 9
7	6 7
8	1 9
9	0 0

- (a) 4 (b) 5 (c) 6 (d) 8

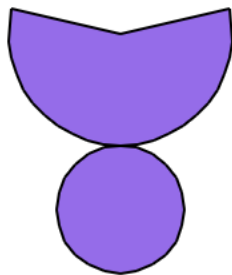
16. Which net will make the figure below?



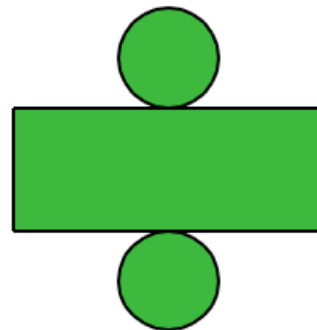
(a)



(b)



(c)



(d)

17. Which expression represents the phrase below?

8 less than the product of 6 and a number, x

(a) $8 - 6x$

(b) $6x - 8$

(c) $(x + 6) - 8$

(d) $8 - (x + 6)$

18. $(5 + 2)[6 - (3 + 2)] =$

(a) 7

(b) 8

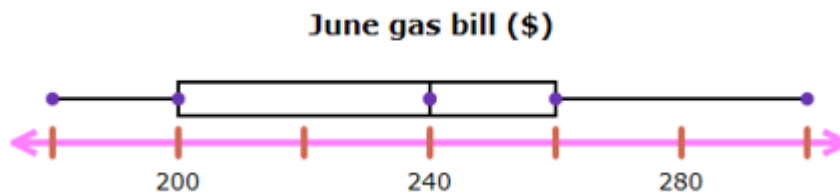
(c) 12

(d) 13

19. 10% of 20% of _____ is 30.

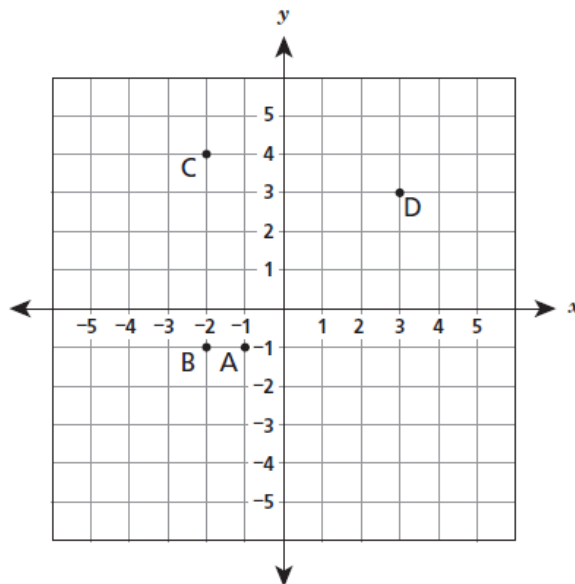
- (a) 30 (b) 300 (c) 600 (d) 1500

20. What percent of the households were charged \$260 or less on their gas bill in June?



- (a) 25% (b) 50% (c) $66 \frac{2}{3}\%$ (d) 75%

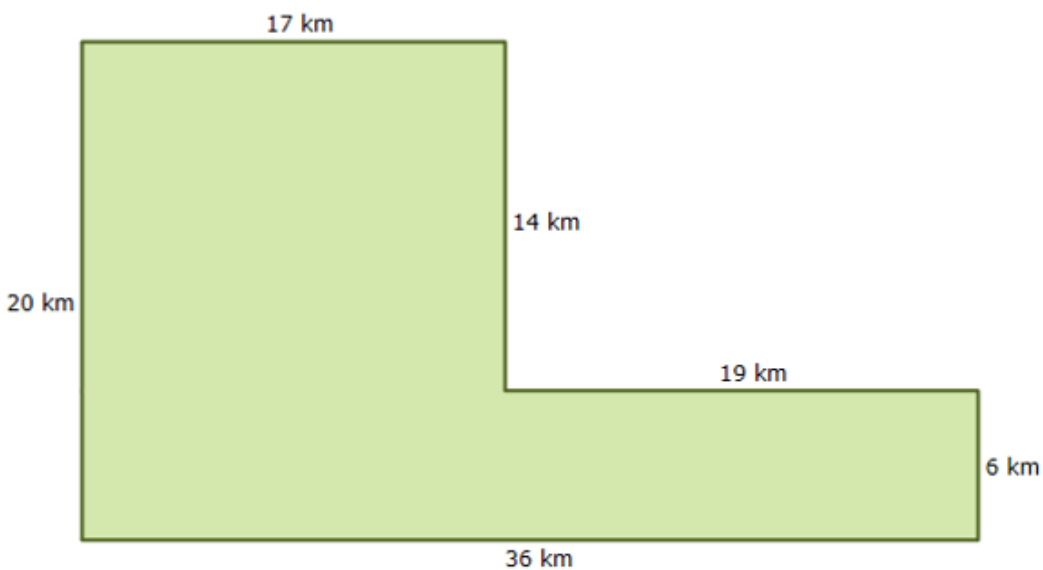
21. Point G is the point (3, -1). Which point is 5 units from point G?



- (a) point A (b) point B (c) point C (d) point D

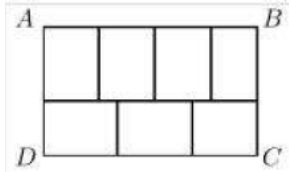
22. The price of a share of stock in a company was \$24.75 at the beginning of the week. Over the next 5 days, the stock gained \$2.50 on Monday, lost \$3.25 on Tuesday, lost \$0.75 on Wednesday, gained \$1.25 on Thursday and gained \$4.75 on Friday. What was the price of a share of stock at the end of Friday?
- (a) \$12.25 (b) \$25.75 (c) \$29.25 (d) \$37.25

23. What is the area of this figure?



- (a) 112 km (b) 112 km² (c) 454 km² (d) 720 km²
24. The Sojourn family went on a vacation. They started with \$2,000. If they spent \$150 each day, which expression represents how much money they had after x days?
- (a) 1850x (b) 2000 - 150x (c) 150x (d) 2000 + 150x

28. We partition the rectangle ABCD into seven congruent rectangles like the figure below. If the area of rectangle ABCD is 84 cm^2 , what is the perimeter of a small rectangle in cm?



- (a) 7 (b) 9 (c) 14 (d) 12
29. Mason has 10 black, 12 white, and 3 brown pairs of socks in one drawer. What percentage of the time will Mason, without looking, pick a brown pair of socks from the drawer?

- (a) 4% (b) 12% (c) 14% (d) $33 \frac{1}{3}\%$

30. The sum of all the whole number factors of 32 is:

- (a) 7 (b) 24 (c) 30 (d) 63

31. What inequality does this number line show?



- (a) $x < 6$ (b) $x > 6$ (c) $x \leq 6$ (d) $x \geq 6$
32. Evaluate $(0.2)^3 =$ _____
- (a) 0.8 (b) 0.08 (c) 0.6 (d) 0.008
33. The students in Mrs. Lee's class are standing in a circle; they are evenly spaced and are numbered in order starting with 1. The student with number 7 is directly across from the student with number 18. How many students are in the class?

- (a) 22 (b) 20 (c) 19 (d) 18

34. 200% of 6 = 300% of _____ ?

- (a) 2 (b) 4 (c) 12 (d) 36

35. There are 10 players in a chess tournament. If each game is played by 2 players, and each player plays every other player exactly once, what is the total number of games played in the tournament?

- (a) 100 (b) 90 (c) 50 (d) 45

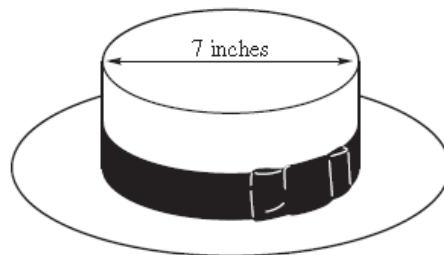
36. The area of a rectangular park is $\frac{3}{5}$ square mile. The length of the park is $\frac{7}{8}$ mile. What is the width of the park?

- (a) $\frac{59}{40}$ mile (b) $\frac{11}{40}$ mile (c) $\frac{21}{40}$ mile (d) $\frac{24}{35}$ mile

37. What is the 2014th digit of $\frac{2}{11}$?

- (a) 8 (b) 9 (c) 1 (d) 2

38. The top part of this hat is shaped like a cylinder of diameter 7 inches.



Which measure is closest to the length of the band that goes around the hat.

- (a) 44 inches (b) 11.0 inches (c) 22.0 inches (d) 38.5 inches

39. A tank is in the shape of a triangular prism. If the triangular base has an area of 116 square feet, and the tank is 30 feet tall, how much water would the tank contain when it is full?

- (a) 1725 ft^3 (b) 1740 ft^3 (c) 3480 ft^3 (d) 6960 ft^3

40. John divided his souvenir hat pins into two piles. The two piles had an equal number of pins. He gave his brother one-half of one-third of one pile. John had 66 pins left. How many pins did John give to his brother?

- (a) 3 (b) 6 (c) 11 (d) 22

41. Emil wants to find out the most popular football team at a game between the home team and the visiting team. Which of the following methods will give him the **most** accurate results?

- (a) surveying the cheerleaders for the home team
(b) surveying people wearing hats for the visiting team
(c) surveying a group of people standing in line for tickets
(d) surveying people who do not live in the home team's city

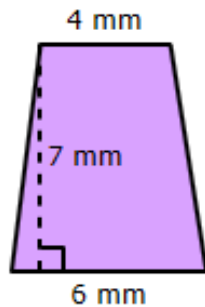
42. A factory uses $\frac{1}{10}$ of a barrel of raisins in each batch of granola bars. Yesterday, the factory used $\frac{2}{5}$ of a barrel of raisins. How many batches of granola bars did the factory make yesterday?

- (a) 2 (b) $\frac{1}{10}$ (c) $\frac{1}{2}$ (d) 4

47. Which is the better buy?

- (a) 2-gallon jug of water for \$8.96 (b) 2-pint jug of water for \$2.24
(c) 1-quart jug of water for \$1.50 (d) 1-gallon jug of water for \$4.00

48. What is the area of the figure below?



- (a) 70 mm^2 (b) 42 mm^2 (c) 35 mm^2 (d) 28 mm^2

49. If a ScienceFirst model solar system has a sale price of \$27, what was the original price?

Sale! 70% off!

- (a) \$90 (b) \$18.90 (c) \$8.10 (d) \$38.57

50. A telephone company charges \$0.05 per minute for local calls and \$0.12 per minute for long-distance calls. Which expression gives the total cost in dollars for x minutes of local calls and y minutes of long-distance calls?

- (a) $0.05x - 0.12y$ (b) $0.12x + 0.05y$
(c) $0.17(x + y)$ (d) $0.05x + 0.12y$

ANSWER SHEET 6th Grade Test 2014

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