



Thirty-Third Annual Sixth Grade Math Blast

First Stage

Directions:

1. Use a #2 pencil.
2. Scratch paper may be used. You may write on this test.
3. Put your NAME and SCHOOL on the Scantron answer sheet
4. Transfer answers to Scantron carefully; be sure to make marks dark and erasures clean.
5. There is no penalty for guessing.
6. All fractions are to be simplified.
7. Use 3.14 for π .

1. Ian has 41¢ in coins. No two coins have the same value. How many coins does Ian have?
 - a. 4
 - b. 5
 - c. 6
 - d. 7
 - e. None of These
2. Quincey needs six pieces of wire, each 218 centimeters long. Wire is sold only by the meter. How many meters of wire must Quincey buy?
 - a. 13
 - b. 14
 - c. 18
 - d. 1308
 - e. None of These
3. Two circles and one straight line are drawn. Find the largest possible number of intersection points for this drawing.
 - a. 2
 - b. 4
 - c. 6
 - d. 8
 - e. None of These
4. Find the number of seconds in 3.5 hours.
 - a. 210
 - b. 3600
 - c. 10800
 - d. 12600
 - e. None of These



- 5 . If a radius of a circle is 8 *cm* long, how long is the diameter?
- a. 4 cm
 - b. 8 cm
 - c. 16 cm
 - d. 64 cm
 - e. None of These
- 6 . $\sqrt{1^2 + 2^2 + 2^2}$?
- a. 5
 - b. $\sqrt{5}$
 - c. 3
 - d. 9
 - e. None of These
- 7 . In a class of 30 students, exactly 7 have tape recorders, exactly 15 have pocket calculators, and exactly 2 have both. How many of the 30 students have neither?
- a. 10
 - b. 8
 - c. 6
 - d. 4
 - e. None of These
- 8 . A rectangular lot 30 m by 40 m is surrounded on all 4 sides by a concrete walk 5 m wide. Find the area of the walk.
- a. 800 m²
 - b. 700 m²
 - c. 375 m²
 - d. 350 m²
 - e. None of These
- 9 . The area of a rectangle is 40 *in*². If the side lengths are whole numbers, which of the following could NOT be the perimeter of the rectangle?
- a. 26 inches
 - b. 28 inches
 - c. 42 inches
 - d. 44 inches
 - e. None of These
- 10 . The perimeter of an equilateral triangle is 24 *cm*. The length of one side is
- a. 8 cm
 - b. 12 cm
 - c. 16 cm
 - d. 72 cm
 - e. None of These



11. The scale of a map is: $\frac{3}{4}$ in = 10 miles. If the distance on the map is 12 in, the actual distance is

- a. 90 miles
- b. 120 miles
- c. 150 miles
- d. 160 miles
- e. None of These

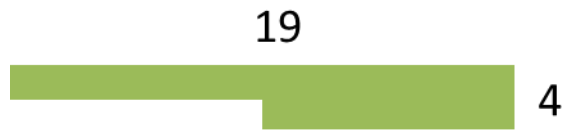
12. There is a balance scale. On one side is put a full brick. On the other side is put both a half-brick and a 6 lb weight. Both sides now weight the same. Find the weight of the full brick.

- a. 3 lbs
- b. 6 lbs
- c. 9 lbs
- d. 12 lbs
- e. None of These

13. The next number in the sequence 1,1,2,3,5,8,13,... is

- a. 21
- b. 20
- c. 19
- d. 15
- e. None of These

14. All the angles in the figure are right angles. The perimeter of the figure is between



- a. 15 and 26
- b. 37 and 44
- c. 45 and 55
- d. 100 and 200
- e. None of These

15. Solve for n in the equation: $\frac{1}{7}n - 3 = 2$

- a. 5
- b. 7
- c. 14
- d. 35
- e. None of These

16. Which of the following is the largest amount?

- a. 20 ounces
- b. 3 cups
- c. 2 pints
- d. $\frac{1}{2}$ gallon
- e. None of These



17. Examine the following table, and then write an algebraic equation that shows how x and y are related.

X	3	4	5	6	7
Y	11	14	17	20	23

- a. $x + y = 14$
- b. $3x + 2y = 20$
- c. $3x + 2 = y$
- d. $x + 8 = 11$
- e. None of These

18. If today is a Saturday and is the 11th of the month, what day of the week is the 28th of month?

- a. Monday
- b. Tuesday
- c. Wednesday
- d. Thursday
- e. None of These

19. Evaluate the expression $3xy - y$ given $x = \frac{2}{3}$ and $y = 2$.

- a. 1
- b. 2
- c. $\frac{1}{3}$
- d. $\frac{4}{3}$
- e. None of These

20. What is the sum of the prime factors of 2013?

- a. 75
- b. 76
- c. 674
- d. 675
- e. None of These

21. Julia is 3 cm taller than Alex and 4 cm shorter than Ian. If Ian is 3 meters tall, then Alex's height is

- a. 193 cm
- b. 197 cm
- c. 203 cm
- d. 207 cm
- e. None of These

22. Two angles are supplementary. If one angle has a measure of 25 degrees, then the measure of the other angle is

- a. 25 degrees
- b. 180 degrees
- c. 155 degrees
- d. 65 degrees
- e. None of These



23. It costs 7.5 cents to make one color copy. How many color copies can you make for \$18?
- 24
 - 135
 - 240
 - 2400
 - None of These
24. The perimeter of a rectangle is 40 cm. If its width is 6 cm, what is the area of the rectangle?
- 84 cm^2
 - 100 cm^2
 - 102 cm^2
 - 168 cm^2
 - None of These
25. $\frac{2}{0.5} + \frac{5}{0.2} =$
- 29
 - $2\frac{1}{2}$
 - 1
 - $\frac{7}{10}$
 - None of These
26. $(95 \times 68) - (94 \times 68)$
- 1
 - 68
 - 78
 - 88
 - None of These
27. 1.4 minutes =
- 64 seconds
 - 84 seconds
 - 96 seconds
 - 100 seconds
 - None of These
28. Three goats eat 6 tin cans in 1 hour. How long should it take six goats to eat 3 tin cans?
- 15 minutes
 - 30 minutes
 - 1 hour
 - 2 hours
 - None of These
29. Which is true?
- $\frac{1}{7} > \frac{1}{3}$
 - $\frac{2}{9} < \frac{1}{5}$
 - $\frac{2}{3} > \frac{7}{10}$
 - $\frac{5}{7} < \frac{8}{9}$
 - None of These
30. The total number of hours in the month of February, 2014, is
- 196
 - 696
 - 672
 - 720
 - None of These



31. $\sqrt{25} + \sqrt{144} = ?$
- a. $\sqrt{13}$
 - b. $\sqrt{16}$
 - c. $\sqrt{19}$
 - d. $\sqrt{169}$
 - e. None of These
32. If 18 wuzzies equals 45 wizzes then 50 wizzes equals
- a. 23 wuzzies
 - b. 25 wuzzies
 - c. 20 wuzzies
 - d. 19 wuzzies
 - e. None of These
33. Find the missing number: $\frac{1}{8} + \frac{3}{8} = \frac{1}{7} + \frac{?}{7}$
- a. 3
 - b. 4
 - c. $2\frac{1}{2}$
 - d. $3\frac{1}{2}$
 - e. None of These
34. Captain Tage flew 80 km. He flew the first 8 minutes at half speed and the second 8 minutes at full speed. The full speed of the plane is:
- a. 400 km/hr
 - b. 600 km/hr
 - c. 800 km/hr
 - d. 1000 km/hr
 - e. None of These
35. The lengths of two sides of an isosceles triangle are 12 inches and 6 inches. What is the perimeter?
- a. 18 inches
 - b. 30 inches
 - c. 36 inches
 - d. Cannot be determined
 - e. None of These
36. A gear 48 cm in diameter turns a smaller gear 36 cm in diameter. In the time the larger gear turns 15 revolutions, how many revolutions does the smaller gear make?
- a. 15
 - b. 20
 - c. 25
 - d. 30
 - e. None of These



37. A cookie factory uses $\frac{1}{8}$ of a bag of flour to make 48 cookies. How many bags of flour will they need to make 64 dozen cookies?
- 1 bag
 - $1\frac{1}{3}$ bags
 - $1\frac{2}{3}$ bags
 - 2 bags
 - None of These
38. $0.5 + \frac{5}{100} + \frac{1}{4} =$
- 0.08
 - 0.8
 - $\frac{3}{5}$
 - $\frac{4}{5}$
 - None of These
39. At 45 mph, the time it takes to travel 1 mile is
- 180 seconds
 - 120 seconds
 - 90 seconds
 - 80 seconds
 - None of These
40. Which of the following is a quadrilateral?
- pentagon
 - hexagon
 - circle
 - square
 - None of These
41. On an \$800 loan, at a 12% annual interest rate, the simple interest for 3 months is
- \$24
 - \$32
 - \$48
 - \$96
 - None of These
42. A carton containing one dozen eggs costs 96¢. This is 12¢ less than the cost of 12 individual eggs. How much does one egg cost?
- 10¢
 - 9¢
 - 8¢
 - 7¢
 - None of These
43. $3^4 \times 9^2 =$
- 12×12
 - 27^2
 - 27^8
 - 9^4
 - None of These
44. $0.003 =$
- 3%
 - 0.3%
 - 0.03%
 - 0.003%
 - None of These



45. 400% of 20 equals
- a. 20
 - b. 80
 - c. 500
 - d. 800
 - e. None of These

46. Which is greater than $\frac{1}{2}$?
- a. 0.49
 - b. $\frac{5}{0.01}$
 - c. $3 \times \frac{1}{8}$
 - d. $\frac{3+6}{18}$
 - e. None of These

47. $\frac{4\frac{1}{3}}{4} = \frac{?}{12}$
- a. 26
 - b. 13
 - c. 8
 - d. 7
 - e. None of These

48. How many numbers between 1 and 99 are equal to 4 times an integer?
- a. 23
 - b. 24
 - c. 25
 - d. 96
 - e. None of These

49. If the circumference of a circle is divided by the length of its diameter, the quotient is
- a. π
 - b. 2π
 - c. 2
 - d. 4
 - e. None of These

50. The number of prime numbers between 35 and 45 is
- a. 1
 - b. 2
 - c. 3
 - d. 4
 - e. None of These