



Thirty-Second Annual Sixth Grade Math Blast

Binary Star

Directions:

1. Use a #2 pencil.
2. Scratch paper may be used. You may write on this test.
3. Put BOTH NAMES 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 .

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1. How many degrees does the minute hand of a circular clock move in 1 hour?
 - a. 1°
 - b. 60°
 - c. 120°
 - d. 360°
 - e. None of These
 2. If \$1 Canadian = 80¢ U.S., then \$1 U.S. = ? Canadian.
 - a. \$1.25
 - b. \$1.20
 - c. 80¢
 - d. 75¢
 - e. None of These
 3. What is the sum of the reciprocals of the four whole number factors of 6?
 - a. 2
 - b. 12
 - c. $1/12$
 - d. $7/6$
 - e. None of These
 4. The average of the first ten positive whole numbers is.
 - a. 5
 - b. 5.5
 - c. 6
 - d. 10
 - e. None of These



5. $\sqrt{1} + \sqrt{4} + \sqrt{9} + \sqrt{16} + \sqrt{25} + \sqrt{36} + \sqrt{49} + \sqrt{64} = ?$

- a. 6
- b. $\sqrt{6}$
- c. $\sqrt{81}$
- d. 6^2
- e. None of These

6. If the time now is 2:17 P.M., what will be the time 11 hours and 59 minutes from now?

- a. 1:17 A.M.
- b. 2:15 A.M.
- c. 2:16 A.M.
- d. 2:18 A.M.
- e. None of These

7. The measure of the complement of angle A is 30° . What is the measure of the supplement of angle A?

- a. 30°
- b. 60°
- c. 120°
- d. 150°
- e. None of These

8. A triangle with base 10 has the same area as a square with side 5. What is the length of the altitude to the base of the triangle?

- a. 2.5
- b. 5
- c. 10
- d. 25
- e. None of These

9. How many whole numbers between 1 and 1991 are multiples of 5 and are even?

- a. 400
- b. 399
- c. 398
- d. 199
- e. None of These

10. What is the ones' digit in the number 3^{1991}

- a. 1
- b. 3
- c. 7
- d. 9
- e. None of These



11. Aaron can travel in his Aaronmobile at 80 km/hr. At that speed, how long would it take Aaron to travel 40 km?

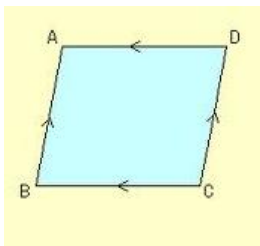
- a. $\frac{1}{2}$ minute
- b. 30 minutes
- c. 40 minutes
- d. 2 hours
- e. None of These

12. Today, Angelique is 68 years old. What is the difference in her age today and her age 50 years ago?

- a. 18 years
- b. 40 years
- c. 50 years
- d. 68 years
- e. None of These

13. Parallelogram ABCD will be a rhombus whenever

- a. $AB = CD$
- b. $AB = BA$
- c. $AB = AD$
- d. $BC = AD$
- e. None of These



14. If a three-digit number is 50 more than some two-digit number, what is the largest possible value of this three-digit number?

- a. 149
- b. 150
- c. 151
- d. 999
- e. None of These

15. If twice the length of a diameter of a circle is 24, what is the length of the radius of this circle?

- a. 12
- b. 6
- c. 3
- d. 1
- e. None of These

16. What is the average of the two primes nearest in value to 38?

- a. 37
- b. 38
- c. 39
- d. 40
- e. None of These



17. The sun is about 140 million km away. If I drove my car as fast as possible, I'd go 700 thousand km per year. If it were possible to drive directly to the sun, and I drove as fast as I could, how long would it take me to reach the sun?
- 2 years
 - 20 years
 - 200 years
 - 2000 years
 - None of These
18. Tage's age is $\frac{2}{5}$ of Kaung's age, but $\frac{3}{4}$ of Ethan's age. The ratio of Kaung's age to Ethan's age is
- 3:15
 - 8:15
 - 15:8
 - 10:3
 - None of These
19. Let $\$(d)\$ = \frac{d}{d+1}$. What is the value of $\$(\$(1)\$)\$?$
- $\frac{1}{2}$
 - $\frac{1}{3}$
 - $\frac{1}{4}$
 - $\frac{2}{3}$
 - None of These
20. When the product of the first 1001 positive primes is divided by the product of the first 1000 positive primes, the quotient must be
- 1000
 - 10001
 - prime
 - even
 - None of These
21. To the nearest 1%, what percent of the letters in the word "facetious" are vowels?
- 50%
 - 56%
 - 63%
 - 67%
 - None of These
22. The sum of ? and its reciprocal equals 2.
- 2.5
 - 2
 - 1
 - 0.5
 - None of These



23. Of the following number pairs, the fewest primes lie between

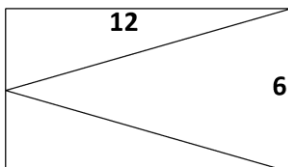
- a. 0-10
- b. 10-20
- c. 20-30
- d. 40-50
- e. None of These

24. Nathan's average on 5 tests is 80. If his lowest grade is dropped, his average on the 4 remaining tests is 86. Nathan's lowest grade was

- a. 56
- b. 62
- c. 66
- d. 74
- e. None of These

25. The average area of the three triangles drawn inside the 6in by 12in rectangle below is

- a. 12 sq.in.
- b. 16 sq.in.
- c. 24 sq.in.
- d. 32 sq.in.
- e. None of These



26. If an ant can carry 5 times its weight, then how many ants, each weighing 0.001kg, would be needed to together carry a weight equal to the weight of a 2000 kg car?

- a. 10
- b. 400,000
- c. 4 million
- d. 10 million
- e. None of These

27. Mabel set her watch correctly at 9 A.M., but it ran 9 minutes fast every real hour. When 9 hours had passed, her watch read

- a. 9:21 P.M.
- b. 7:21 P.M.
- c. 6:09 P.M.
- d. 4:39 P.M.
- e. None of These

28. If low-fat yogurt has 25% fewer calories than regular yogurt, and if a container of low-fat yogurt has 180 calories, then the same-sized container of regular yogurt contains ? calories.

- a. 135
- b. 205
- c. 225
- d. 240
- e. None of These



29. I can purchase 3 cassettes for the price of 2 CD's. If I buy 3 CD's and 6 cassettes for \$84, then the price of one CD is

- a. \$10
- b. \$11
- c. \$12
- d. \$13
- e. None of These

30. At 3:30, the hands of an accurate school clock make an angle of

- a. 90°
- b. 75°
- c. 65°
- d. 60°
- e. None of These

31. In a group of 31 people, how many different handshakes will occur if each person shakes hands just once with everyone else?

- a. 15×31
- b. 30×30
- c. 30×31
- d. 31×31
- e. None of These

32. What number must be added to the numerator and the denominator of $\frac{1}{3}$ to make the value of the resulting fraction $\frac{2}{3}$?

- a. 1
- b. 2
- c. 3
- d. 4
- e. None of These

33. $\sqrt{\sqrt{16}} =$

- a. 1
- b. 2
- c. 4
- d. 8
- e. None of These

34. The number of eighths in 7.75 is

- a. 10
- b. 31
- c. 59
- d. 62
- e. None of These

35. $\sqrt{25 \times 25} = ?$

- a. 625
- b. 25
- c. 10
- d. Thursday
- e. None of These