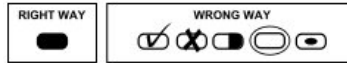


37th Annual 6th Grade Math Blast Binary Star 2018

Directions:

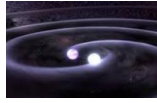
- 1) Use a #2 pencil
- 2) Scratch paper may be used.
- 3) Put both **NAMES** and **SCHOOL NAME** on scantron answer sheet.
- 4) Transfer answers to scantron sheet carefully; be sure to make marks on answer sheet



dark so machine will pick them up.

- 5) There is no penalty for guessing.
- 6) Ties will be broken by previously selected questions.
- 7) All fractions are to be in lowest terms.
- 8) Use 3.14 for π .
- 9) N.O.T. means "None of These"

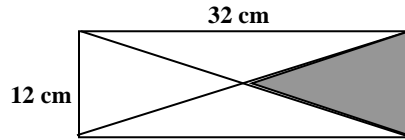
-
1. What is the 12th prime number?
A. 27 B. 29 C. 31 D. 37 E. N.O.T.
 2. The total value of 850 dimes equals the total value of how many quarters?
A. 34 B. 225 C. 300 D. 340 E. N.O.T.
 3. A 3.5 pound fish costs \$7.70. At the same unit cost, how much does a 2.5 pound fish cost?
A. \$5.30 B. \$5.40 C. \$5.50 D. \$5.60 E. N.O.T.
 4. Given that a 'score' represents 20 and a 'gross' represents 144, how much is the following? "A dozen, a gross, and a score, plus three times the square root of four, all divided by 7, then add five times eleven."
A. 81 B. 1180.3 C. 1857 D. 1863 E. N.O.T.
 5. The weight of a box with 30 identical chocolates is 21 ounces. When 6 chocolates are removed and eaten, the weight of the box and remaining chocolates is 17.4 ounces. In ounces, what is the weight of the empty box?
A. 2.2 B. 2.4 C. 2.8 D. 3 E. N.O.T.
 6. What does "one million times one billion divided by one trillion" equal?
A. 1 B. 1 thousand C. 1 million D. 1 billion E. N.O.T.



37th Annual 6th Grade Math Blast Binary Star 2018

7. What is the area, in square centimeters, of the shaded region?

- A. 86 B. 96 C. 128
D. 192 E. N.O.T.



8. What is the sum of the two prime numbers between 50 and 60?

- A. 112 B. 163 C. 169 D. 220 E. N.O.T.

9. The temperature in Juneau at 6 PM was -7° Fahrenheit. For five straight days, the temperature dropped 5° at night, then rose 8° during the day. After the fifth increase, what was the temperature in Juneau?

- A. -22° B. -2° C. 2° D. 8° E. N.O.T.

10. From 1:55 PM to 3:15 PM, how many degrees does the minute hand of a clock rotate through?

- A. 420° B. 480° C. 600° D. 28800° E. N.O.T.

11. Evaluate: $\frac{2 - \frac{2}{3}}{1 - \frac{1}{6}}$

- A. $7/6$ B. $5/6$ C. $2/5$ D. $6/5$ E. N.O.T.

12. The Davis' house had 1200 square feet of living space before they added on a 300 square foot rectangular room. By what percent had their amount of living space increased?

- A. 2.5% B. 10% C. 25% D. 40% E. N.O.T.

13. The heights of the starting five of the Modesto Junior College men's basketball team are:

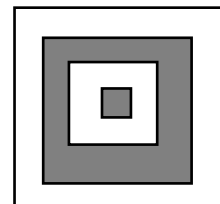
$6'5''$; $6'10''$; $5'9''$; $6'2''$; $6'4''$

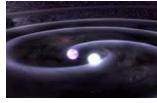
In inches, what is their average height?

- A. 73 B. 74.8 C. 75.6 D. 76 E. N.O.T.

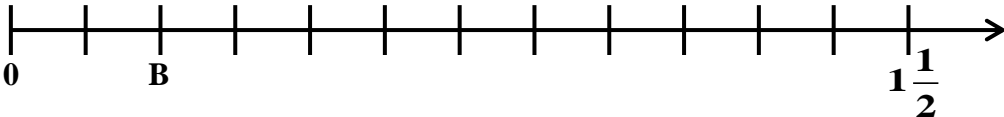
14. A target consists of four concentric squares of side lengths 1, 3, 5, and 7. What per cent of the target is shaded? Round to the nearest percent.

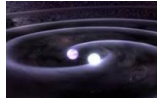
- A. 33% B. 35% C. 38%
D. 43% E. N.O.T.





37th Annual 6th Grade Math Blast Binary Star 2018

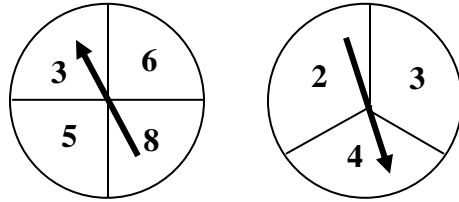
23. Today is Saturday, March 17, 2018. The Fourth of July is 109 days away. On what day of the week is July 4, 2007?
- A. Sunday B. Monday C. Tuesday D. Wednesday E. N.O.T.
24. A bag contains only red marbles and green marbles. There are 30 green marbles in the bag. If the probability of selecting one red marble at random is $\frac{3}{5}$, how many red marbles are in the bag?
- A. 12 B. 18 C. 42 D. 45 E. N.O.T.
25. The area of a rectangle is 48 square feet. In feet, its width and length are whole numbers. What is the difference between the greatest possible perimeter and the least possible perimeter of this rectangle?
- A. 10 feet B. 24 feet C. 60 feet D. 70 feet E. N.O.T.
26. 
- On this number line, what number is B?
- A. $\frac{1}{4}$ B. $\frac{1}{6}$ C. $\frac{1}{5}$ D. $\frac{2}{11}$ E. N.O.T.
27. A license plate consists of two letters followed by three digits, for example, **ZX449**. If the letter “O” and the digit “0” are not allowed, but repetition of letters and numbers are allowed, how many different license plate numbers are possible?
- A. 302,400 B. 455,625 C. 540,500 D. 582,225 E. N.O.T.
28. Simplify the following expression, $\sqrt{100 - 64} + 18 \div (-3)(-2)$.
- A. 18 B. 16 C. 6 D. 5.8 E. N.O.T.
29. In a practice for a triathlon, Geoff bikes 18 miles in 45 minutes and then runs half as far in twice the time. What is his average speed for this practice?
- A. 12 mph B. 13.5 mph C. 14 mph D. 15 mph E. N.O.T.
30. In how many different ways can 40 cents be made using any combination of nickels, dimes, and quarters? (A solution is allowed to include none of one or two types of coins.)
- A. 5 B. 6 C. 7 D. 8 E. N.O.T.



37th Annual 6th Grade Math Blast Binary Star 2018

31. These two fair spinners, divided into fourths and thirds, are each spun once. What is the probability that the product of the two numbers spun is even?

- A. $1/2$ B. $7/12$ C. $3/4$
D. $5/6$ E. N.O.T.



32. In a group of 30 high school students, 8 take French, 12 take Spanish, and 3 take both languages. How many students of the group take neither French or Spanish?

- A. 13 B. 12 C. 11 D. 10 E. N.O.T.

33. If 20 is added to one-third of a number, the result is the double of the number. What is the number?

- A. 3.2 B. 3.5 C. 4.1 D. 4.4 E. N.O.T.

34. At 11:00 AM, Abang begins climbing Mount Kinabalu at the Timponon gate at an elevation of 8600 feet. At 11:00 AM, his friend Taha begins descending from Laban Rata hut on Mount Kinabalu at 10,800 feet. In terms of change in elevation, Abang's constant uphill speed is 15 feet per minute, while Taha walks down at 29 feet per minute. At what elevation will they meet?

- A. 8350 feet B. 8434 feet C. 9350 feet D. 9622 feet E. N.O.T.

35. In this Magic Square, the sum of the three numbers in each row and in each column is the same. What is the value of B-C?

- A. 5 B. -5 C. 9
D. -9 E. N.O.T.

A	B	8
13	-3	E
C	D	F