



2017-2018 年度美国“大联盟” (Math League) 思维探索第一阶段活动

(三年级)

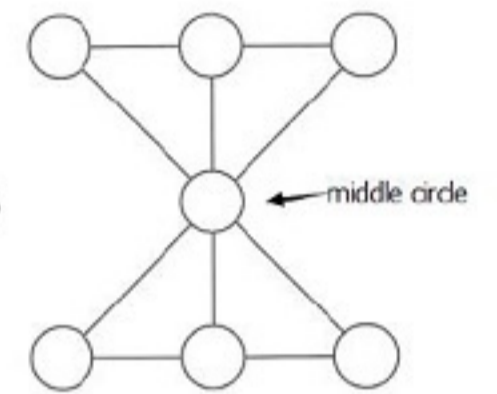
(活动日期: 2017 年 11 月 26 日, 答题时间: 90 分钟, 总分 200 分)

学生诚信协议: 答题期间, 我确定没有就所涉及的问题或结论, 与任何人、用任何方式交流或讨论, 我确定我所填写的答案均为我个人独立完成的成果, 否则愿接受本次成绩无效的处罚。

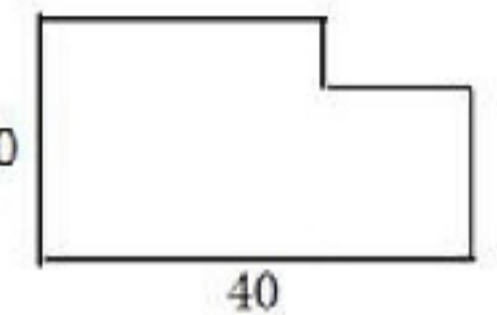
选择题: 每小题 5 分, 答对加 5 分, 答错不扣分, 共 200 分。

- $5 + 6 + 7 + 1825 + 175 =$
A) 2015 B) 2016 C) 2017 D) 2018
- The sum of 2018 and ? is an even number.
A) 222 B) 223 C) 225 D) 227
- John and Jill have \$92 in total. John has three times as much money as Jill. How much money does John have?
A) \$60 B) \$63 C) \$66 D) \$69
- Tom is a basketball lover! On his book, he wrote the phrase “ILOVENBA” 100 times. What is the 500th letter he wrote?
A) L B) B C) V D) N
- An 8 by 25 rectangle has the same area as a rectangle with dimensions
A) 4 by 50 B) 6 by 25 C) 10 by 22 D) 12 by 15
- What is the positive difference between the sum of the first 100 positive integers and the sum of the next 50 positive integers?
A) 1000 B) 1225 C) 2025 D) 5050
- You have a ten-foot pole that needs to be cut into ten equal pieces. If it takes ten seconds to make each cut, how many seconds will the job take?
A) 110 B) 100 C) 95 D) 90
- Amy rounded 2018 to the nearest tens. Ben rounded 2018 to the nearest hundreds. The sum of their two numbers is
A) 4000 B) 4016 C) 4020 D) 4040
- Which of the following pairs of numbers has the greatest least common multiple?
A) 5,6 B) 6,8 C) 8,12 D) 10,20
- For every 2 pencils Dan bought, he also bought 5 pens. If he bought 10 pencils, how many pens did he buy?
A) 25 B) 50 C) 10 D) 13
- Twenty days after Thursday is
A) Monday B) Tuesday C) Wednesday D) Thursday

12. Of the following, ? angle has the least degree-measure.
 A) an obtuse B) an acute C) a right D) a straight
13. Every student in my class shouted out a whole number in turn. The number the first student shouted out was 1. Then each student after the first shouted out a number that is 3 more than the number the previous student did. Which number below is a possible number shouted out by one of the students?
 A) 101 B) 102 C) 103 D) 104
14. A boy bought a baseball and a bat, paying \$1.25 for both items. If the ball cost 25 cents more than the bat, how much did the ball cost?
 A) \$1.00 B) \$0.75 C) \$0.55 D) \$0.50
15. $2 \text{ hours} + \underline{?} \text{ minutes} + 40 \text{ seconds} = 7600 \text{ seconds}$



- A) 5 B) 6 C) 10 D) 30
16. In the figure on the right, please put digits 1-7 in the seven circles so that the three digits in every straight line add up to 12. What is the digit in the middle circle?
 A) 3 B) 4 C) 5 D) 6
17. If 5 adults ate 20 apples each and 3 children ate 12 apples in total, what is the average number of apples that each person ate?



- A) 12 B) 14 C) 15 D) 16
18. What is the perimeter of the figure on the right? Note: All interior angles in the figure are right angles or 270° .
 A) 100 B) 110 C) 120 D) 160



19. Thirty people are waiting in line to buy pizza. There are 10 people in front of Andy. Susan is the last person in the line. How many people are between Andy and Susan?
 A) 18 B) 19 C) 20 D) 21
20. Thirty-nine hours after 9:00 AM is
 A) 1:00 AM B) 12:00 PM C) 8:00 PM D) 12:00 AM

21. $200 + 400 + 600 + 800 = (1 + 2 + 3 + 4) \times \underline{?}$
 A) 2 B) 20 C) 200 D) 2000
22. $11\dots11$ (the number consisting of 2016 1's) is not a multiple of
 A) 11 B) 111 C) 1111 D) 11111

23. The average of two thousands and two millions is
 A) 10000 B) 1000000 C) 1001000 D) 1111000

24. A triangle has the same area as a square. If the length of a base of the triangle is the same as the side-length of the square, and the height of the triangle to the base is 4, what is the area of the square?
 A) $1/2$ B) 2 C) 4 D) 8

25. When Volta found a field in the shape of an isosceles triangle, she was so excited that she ran a lap around all three sides. Two sides of the field have lengths of 505 m each, and the third side has a whole-number length. What is the greatest possible distance that Volta might have run in one lap?
 A) 2016 B) 2017 C) 2018 D) 2019



26. $25 \times 66 = 75 \times \underline{\quad ? \quad}$
 A) 22 B) 44 C) 16 D) 33
27. The number that has an odd number of whole number divisors is
 A) 15 B) 16 C) 17 D) 18
28. In a sequence of 8 numbers, the average of the 8 terms is 15. If the average of the first three terms is 16 and the average of the next two terms is 15, what is the average of the last three terms?
 A) 12 B) 13 C) 14 D) 15
29. All years between 2000 and 2050 that are divisible by 4 are leap years. No other years between 2000 and 2050 are leap years. How many days are there all together in the 17 years from 2010 to 2026?
 A) 6209 B) 6030 C) 5018 D) 5019
30. The sum of the hundreds digit and the tens digit of 2357 is
 A) 5 B) 8 C) 10 D) 12
31. Which of the expressions below has the greatest value of (quotient \times remainder)?
 A) $27 \div 4$ B) $47 \div 6$ C) $57 \div 8$ D) $87 \div 12$
32. I have some dimes and nickels, and together these coins are worth \$3. If I replace every nickel with a quarter, I will have \$5. How many dimes do I have?
 A) 10 B) 15 C) 20 D) 25
33. I am a lovely cat. When I multiply the digits of a whole number and the product I get is 9, I put that whole number on my list of favorite numbers. Of the whole numbers from 1000 to 9999, how many would I put on my list of favorite numbers?
 A) 5 B) 10 C) 15 D) 20
34. The sum of the tens digit and the units digit of the sum $1 + 12 + 123 + 1234 + \dots + 123456789$ is
 A) 4 B) 5 C) 6 D) 7
35. The product of all prime numbers between 1 and 10 is
 A) 210 B) 105 C) 1890 D) none of the above
36. What is the average of 12, 14, 16, and 18?
 A) 13 B) 14 C) 15 D) 16
37. When Jon shouts out a whole number, Al shouts out the product of its digits, Barb shouts out the product of the digits of the number Al shouted out, and Cy shouts out the product of the digits of the number Barb shouted out. When Cy shouts out 18, what number might Jon have shouted out?
 A) 789 B) 799 C) 899 D) 999
38. Each big box contains 3 medium boxes, each medium box contains 2 small boxes, and each small box contains 5 apples. How many big boxes are necessary for 1200 apples?
 A) 30 B) 40 C) 50 D) 60
39. Eighteen years from now, my age will be 4 more than twice my current age. My age now is
 A) 12 B) 14 C) 16 D) 18
40. Each time Wanda waved her wand, 4 more stars appeared on her dress (which started with no stars). After several waves, Wanda multiplied the total number of stars then on her dress by the number of times she had waved her wand. This product *cannot* be
 A) 144 B) 256 C) 364 D) 676



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三年级试卷答案

题号	1	2	3	4	5	6	7	8	9	10
答案	D	A	D	C	A	B	D	C	A	A
题号	11	12	13	14	15	16	17	18	19	20
答案	C	B	C	B	B	B	B	C	A	D
题号	21	22	23	24	25	26	27	28	29	30
答案	C	D	C	C	D	A	B	C	A	B
题号	31	32	33	34	35	36	37	38	39	40
答案	B	D	B	B	A	C	C	B	B	C