

Magic Math Contest

1. 5 $2 \times 2 + 2 \div 2$
2. 2 What is the remainder when 128 is divided by 9?
3. 246 $123 + 1 \times 2 \times 3 \times 3 \times 4 \times 5 \times 6 \times 7 \times 0 \times 9 \times 10 \times 11 \times 12 \times 13 + 123$
4. 25 If it is Monday on April 1st, what date will the last Thursday of the month be?(Write only a number, so if the answer is April 2, then write 2 as the answer).
5. 24 Using the letters in the word "MATH," how many different words can I make?(Don't have to be actual words, so a word like THMA is fine even if it is not a real word).
6. 21 Ryan has 20 cookies and wants to split them between 2 friends. How many different ways are there such that he can give all the cookies to the two friends?
7. 2 If Anna has a circle with radius 4, what is the area divided by the circumference?

8. 180 Find the sum of all positive integers which evenly divide 179.
9. 3 if $5 \times x + 3 = 18$, what is x ?
10. 2 The probability of rolling a prime number with a dice is a fraction with a mysterious denominator. What is that denominator? A prime number is a number that is only divisible by 1 and itself.
11. 101 What is $\frac{2020}{\frac{5}{4}}$
12. 6 $(1 + 3 + 5 + 7 + 9 + 11) - (2 + 4 + 6 + 8 + 10)$
13. 25 In a triangle, the base is 5 and the height is 2 times that. what is the area?
14. 3 $\frac{4 \times 8}{3 \times 11} \times \frac{7 \times 9 \times 11}{4 \times 8 \times 7} =$

15. 5050 Find the sum of the first 100 positive integers

16. 99 Billy, Bob, and Joe all have button collections. Bob has 3 times as many buttons as Billy but a fourth as many as Joe. They all together have 176 buttons. How many buttons more buttons does Joe have then Bob.

17. 50 $1 - 2 + 3 - 4 + \dots + 97 - 98 + 99$

18. 720 A wizard has 6 homes in 6 different countries. He must travel between all his homes to collect all the magic potions before the countries get shutdown. Once he leaves a country he is not allowed back. In how many ways can he collect potions from his 6 homes and return to the home to started?

19. 5 In the product shown, B is a digit. What is the value of B?

$$\begin{array}{r} B6 \\ \times 6B \\ \hline 3640 \end{array}$$

20. 20 I have 6 toppings. I want to make a pizza using 3 out of the 6 toppings. In how many different ways can I make a pizza?