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2024-2025 Math League Preliminary Round

(Grade 4)

(Unofficial version, for reference only)

1. If 5 blorks weigh as much as 9 glorks, then 90 glorks weigh as much as _?_ blorks.

   A) 10 B) 18 C) 45 D) 50

2. If 2 + 4 + 6 + … + 100 = 2550, then 1 + 3 + 5 + … + 99 =

   A) 2400 B) 2450 C) 2500 D) 2550

3. What is the product of the number of sides a square has and the number of sides a pentagon has?

   A) 9 B) 10 C) 20 D) 24

4. Find the missing number in the following equation:
   $(3 \times 4 \times 5) + (3 \times 4 \times 6) = (3 \times 4 \times 10) + (3 \times 4 \times$ _?_ $)$.

   A) 1 B) 3 C) 20 D) 21

5. $12 \times 34 + 56 \div 7 =$

   A) $464 \div 7$ B) $1080 \div 7$ C) 504 D) 416

6. $(48 \times 2) + (48 \times 3) + (48 \times 4) = 48 \times$ _?_

   A) 24 B) 9 C) 5 D) 3

7. Dale needs 44 slices of pizza for a party. If each pizza is cut into 8 slices, then Dale needs at least _?_ pizzas for the party.

   A) 2 B) 4 C) 5 D) 6



8. $1 \times 10 \times 2 \times 10 \times 3 \times 10 = 10 \times$?

A) 2×3 B) 5×10 C) 20×3 D) 20×30

9. $22 + 33 + 44 = 3 \times$?

A) 11 B) 33 C) 99 D) 297



10. If 3 pens cost as much as 7 pencils, then 42 pencils cost as much as ? pens.

A) 6 B) 18 C) 21 D) 98

11. The cost of a tire and a jack is \$110. If the tire cost \$100 more than the jack, how much did the jack cost?

A) \$5 B) \$10 C) \$100 D) \$105

12. $9880 \div 8 =$

A) 1234 B) 1235 C) 1236 D) 1237

13. The fraction $\frac{2}{3}$ keeps the same value when both its numerator and denominator are

A) multiplied by 2 B) increased by 2

C) decreased by 2 D) squared

14. If each toboggan holds a prime number of riders, including at least 2 children and 1 adult, which of the following could be the number of riders on 21 toboggans?



A) 110 B) 112 C) 121 D) 122

15. The product of any 3-digit whole number and any 2-digit whole number can contain at most how many digits?

A) 3 B) 4 C) 5 D) 6

16. Which figure has one more side than a square?

A) a circle B) a pentagon C) a triangle D) a rectangle

17. Ballet Bear can do 72 pirouettes (twirls) in 12 minutes. At the same rate, how many pirouettes can Ballet Bear do in 3 minutes?



A) 6 B) 12 C) 18 D) 24

18. What is the product of the least common multiple of 6 and 18 and the greatest common factor of 6 and 18?

A) 6 B) 18 C) 54 D) 108

19. If 150% of a certain number is 300, then 100% of the same number is

A) 100 B) 150 C) 160 D) 200

20. Of the following numbers, which is the largest?

A) 9 ones B) 7 tens C) 5 hundreds D) 3 thousands

21. If I earn $1 every 20 minutes, how much do I earn in 24 hours?

A) $3 B) $8 C) $24 D) $72

22. The cost of 1 two-liter bottle of juice is 5 times the cost of 1 can of juice. If 1 two-liter bottle costs 60¢ more than 3 cans, how much does 1 two-liter bottle cost?



A) $1.00 B) $1.20 C) $1.50 D) $1.80

23. I said "no stone shall go unturned" in my search for different whole-number factors of 36. Just how many such factors are there?



A) 6 B) 8

C) 9 D) 18

24. $\frac{1+2+3+4+5}{2+4+6+8+10} = \frac{6+7}{?}$

A) 12 B) 14 C) 26 D) 27

25. The largest factor of 1985 which is less than 1985 is

A) 5 B) 397 C) 401 D) 1984

26. If I divide my age by 5, the remainder is 3. Your age is twice mine. If I divide your age by 5, the remainder will be

A) 1 B) 2 C) 3 D) 4

27. How many hours are in one week?

A) 7 B) 24 C) 168 D) 10 080

28. What is the *remainder* when 1 414 146 is divided by 7?

A) 0 B) 1 C) 2 D) 6

29. 13 hundreds + 13 tens + 13 ones =

A) 333 B) 1333 C) 1433 D) 1443

30. $1000 \times 100 \times 10 \times 1 \times 0.1 \times 0.01 \times 0.001 =$

A) 0 B) 0.1 C) 1 D) 10

31. A girl began shopping with \$15. After spending some money, the amount she had left was equal to $\frac{2}{3}$ of what she had spent. How much had she spent?

A) \$5 B) \$6 C) \$9 D) \$10

32. The sum of the three smallest primes and one other prime is 77. What is the product of these four primes?

A) 1980 B) 2010 C) 2130 D) Answer not shown

33. For what positive integer n does $n^2 \times 1995^2 \times 1996^2 \times 1997^2 = 3990^2 \times 3992^2 \times 3994^2$?

A) 4 B) 6 C) 8 D) 10

34. In a subtraction example, the four-digit number 48*NN* is subtracted from the four-digit number 197*N*, where the *N*'s represent hidden digits (not necessarily identical). What is the greatest possible result obtainable?

A) -2929 B) -2920 C) -2830 D) Answer not shown

35. If $1996! = 1 \times \ldots \times 1996$, how many integers n satisfy the inequality

$$1996! + 19 < n < 1996! + 96?$$

A) less than 70 B) between 70 and 80, inclusive

C) between 81 and 100, inclusive D) greater than 100

Answers										
Question	1	2	3	4	5	6	7	8	9	10
Answer	**D**	**C**	**C**	**A**	**D**	**B**	**D**	**D**	**B**	**B**
Question	11	12	13	14	15	16	17	18	19	20
Answer	**A**	**B**	**A**	**C**	**C**	**B**	**C**	**D**	**D**	**D**
Question	21	22	23	24	25	26	27	28	29	30
Answer	**D**	**C**	**C**	**C**	**B**	**A**	**C**	**D**	**D**	**C**
Question	31	32	33	34	35					
Answer	**C**	**B**	**C**	**D**	**B**					