Member: _____ Math Club

Mathematics League Competition
Practice Problems – Worksheet 1

1) If 84 players split themselves into teams, how many more teams can they form by splitting into teams of 4 instead of teams of 6?

2) $0 \times 1 + 1 \times 10 + 0 \times 0 + 1 = \ ?$

3) Three angles of a triangle can measure $20°$, $40°$, and _____.

4) To the nearest tenth: 3456×0.001

5) If my bad hair day began 720 minutes before 7:20 pm, then my bad hair day began at what time?

6) $500 + 500 + 500 + 500 + 500 = 10 \times$ _____.

7) Of the whole numbers $10, 11, \ldots, 98, 99$, how many are greater than the sum of their digits?

8) $1^3 + 2^4 =$?

a. $1^4 + 3^2$ b. $1^3 + 4^2$ c. $1^2 + 4^3$ d. $1^1 + 3^4$

9) 7 is prime, so May 7th is a *prime* day. In all, May has _____ prime days.

10) $\frac{2}{3} \times \frac{4}{5} \times \frac{6}{7} \times \frac{7}{6} \times \frac{5}{4} \times \frac{3}{2} =$?

11) 500 nickels = _____ quarters

12) If a square's side-lengths are integers, its perimeter could be:

a. 33 b. 44 c. 55 d. 66

13) If 3 out of every 150 astronauts walk on the book, then _____% of all astronauts walk on the moon.

14) Of the following, which doesn't reduce to $\frac{3}{5}$?

a. $\frac{9}{15}$ b. $\frac{21}{35}$ c. $\frac{24}{40}$ d. $\frac{33}{50}$

15) $\sqrt{100} = \sqrt{36} + \sqrt{?}$

16) A(n) _____ can be made from 2 squares that share a common side.

a. octagon b. hexagon c. rectangle d. triangle

17) By how much does the sum $19 + 28 + 37 + 46 + 55 + 64 + 73 + 82 + 91$ exceed the sum $18 + 27 + 36 + 45 + 54 + 63 + 72 + 81 + 90$?

18) Uncle Bookworm eats two books a week; Aunt Bookworm eats one book every two months. In a year, Uncle eats _____ more books than Aunt.

19) What is the largest odd factor of 81?

20) $\left(\frac{2}{3}\right)^3$= ?

21) At most how many students can sit in a row of 25 chairs, if seated students must be separated by at least one empty chair?

22) The smallest multiple of 10 that's greater than $9 \cdot 9$ is:

a. $9 \cdot 9 + 10$ b. $9.1 \cdot 9.1$ c. $9 \cdot 10$ d. $10 \cdot 10$

23) What is the difference between $\frac{5}{6}$ and its reciprocal is?

24) On my scooter, the real wheel's diameter is 6 cm more than the front wheel's. The real wheel's circumference is ____ cm more than the front wheel's.

a. 3π b. 6π c. 9π d. 36π

25) A regular polygon is always _____.

a. square b. equilateral c. scalene d. isosceles

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. 5 c. 3 d. 4

27) In a rectangle with perimeter 30 cm and area 56 cm^2, the longer side's length is _____ cm more than that of the shorter side.

28) If the sum of two whole numbers is 24 more than their difference, then one of the numbers *must* be _____.

a. 0 b. 6 c. 12 d. 48

29) The first 12 contestants won an average of $80. The next 20 won an average of $70. The 32 contestants won an average of _____.

30) $4^3 \cdot 4^3$ = ?

31) At most _____ circles with radius 1 with non-overlapping interiors can fit inside a square with side-length 4.

32) $0.1\,\% = 1\,\% -$ _____.

33) Today is my birthday. My age today, in months, is 72 times my age 5 years ago, in years. My age today, in years is _____.

a. 6 b. 7 c. 8 d. 12

34) $\sqrt{\sqrt{81 \cdot 81 \cdot 81 \cdot 81}}$ = ?

a. 3 b. 9 c. 27 d. 81

35) Of 2005 integers whose product is even, at most _____ can be odd.

a. 2005 b. 2004 c. 1 d. 0

36) The number _____ equals one-fourth of its own reciprocal.

a. $\frac{1}{2}$ b. $\frac{1}{4}$ c. 2 d. 4

37) How many numbers 11, 21, 31, 41, 51, 61, 71, 81, 91 are prime?

38) $\left(301 + 302 + 303 + \ldots + 325\right) - \left(1 + 2 + 3 + \ldots + 25\right) =$?

a. 25 b. 2500 c. 5000 d. 7500

39) Of the following, which is the first time after 4:30 that the minute and hour hands of the circular clock no longer form an acute angle?

a. 4:36 b. 4:37 c. 4:38 d. 4:39

40) Consecutive letters of the alphabet, starting with A, are given increasing consecutive integer values. If $H + K + L + N = 2005$, then the average of all 26 of the consecutive integers is _____.

a. 491 b. 498 c. 503.5 d. 505.5