



By the Numbers

See how many of the following challenges you can answer!

1. List all the factors of 48.
2. List the common factors of 24 and 36.
3. List the greatest common factor (GCF) of 32 and 60.
4. List the greatest common factor (GCF) of 20 and 42.
5. List the first 8 multiples of 6.
6. List the first 3 common multiples of 15 and 20.
7. List the least common multiple (LCM) of 8 and 12.
8. List the least common multiple (LCM) of 16 and 24.
9. List all the prime numbers less than 20.
10. How many factors do composite numbers have?
11. How many factors do prime numbers have?
12. Give the prime factorization with exponents of 36.
13. Give the prime factorization with exponents of 68.
14. Give the prime factorization with exponents of 60.
15. Simplify this equation using exponents:
 $3 \cdot 3 \cdot 5 \cdot 5 \cdot 5 \cdot 5 \cdot 7$
16. Simplify this equation using exponents:
 $2 \cdot 2 \cdot 2 \cdot 2 \cdot 2 \cdot 2 \cdot 2 \cdot 2 \cdot 2$
17. Give the expanded equation and answer for 34.
18. Give the expanded equation and answer for:
 $23 \cdot 32 \cdot 72 =$
19. What number is the square root of 144?
20. What number is the square root of 100?



DIRECTIONS: To find the entry word for each of the following definitions, solve each problem. Each time your answer occurs in the decoder, write the letter of the problem above it.

What aardvarks like on their pizza : 3 6 99 23 58 29 8 12 18 2	What aardvarks take for an upset stomach : 3 6 99 23 3 23 12 35 2
Where aardvarks go to ski : 3 6 99 3 11 23 99 12 23 3	_____

1. Name the greatest common factor of 24 and 36. = I 7. Name the only even prime. = S
2. Name a two digit number that is divisible by both 6 and 9. = E 8. Name a factor of 24 and 32 that is also a multiple of 8. = V
3. Name the largest two digit multiple of 11. T 9. Name a two digit number that is a factor of 22. = R
4. Name the smallest even number divisible both by 2 and 3. = N 10. Name a two digit prime number whose digits add up to 5. = C
5. Name the prime number between 25 and 30. = O 11. Name a two digit multiple of 7 that its digits add up to 8. = D
6. Name the largest composite number between 1 and 60. = H 12. Name a prime number that is a factor of 12 and 27. = A