Integers

About These Problems

Integers problems consist of varying properties of numbers including operations with numbers. The key to these questions is following the directions very carefully. The questions will often ask something like how many numbers between 1 and some number "x" are divisible by another number. In this scenario, "x" is the sample size. If the sample size of the problem is small, the safest route is to try all possible combinations of what the question is asking for. If the sample size of the problem is too large to do by hand, try it on a smaller number and scale upwards to the original number. Familiarize yourselves with the definitions of factors, multiples, primes, roots, whole numbers, and integers.

Question. When 5 is divided by a positive integer w, the remainder is 2. Which of these values could be w?

1. Three
2. One
3. None
4. Four
5. Two

Answer. 1: All of these answers are less than 3. One approach to the solution could be subtracting 2 from 5 giving us 3. If 5 was replaced with a larger number and the problem was a bit more complicated use your calculator to try all 5 answers and deduce the correct answer.

Question. When of the following numbers is a prime factor of the number 84?

A. Eleven
B. Seven
C. Thirteen
D. Twelve
E. Seventeen

Answer. B: Twelve is not a prime. Factors are numbers that a number is divisible by. The only prime that 84 is divisible by is seven.

Question. How many primes exist between 0 and 24?

A. Fourteen
B. Sixteen
C. Nine
D. Six
E. Twenty-three

Answer. C: The easiest way to solve this problem is to list all of them. 2,3,5,7,11,13,17,19,23. A prime is a number that is only divisible by itself and one. Do not forget that 2 is a prime number even though it is even. The answer is 9.