1

If k is an integer greater than 1, is k equal to 2^r for some positive integer r?

(1) k is divisible by 2^6.
(2) k is not divisible by any odd integer greater than 1.

2

If n is a positive integer, is n^2 - 1 divisible by 24?

(1) n is a prime number.
(2) n is greater than 191

3

Is the positive integer N a perfect square?

(1) The number of distinct factors of N is even.
(2) The sum of all distinct factors of N is even.

4

If 500 is the multiple of 100 that is closest to X and 400 is the multiple of 100 closest to Y, then which multiple of 100 closest to X + Y?

(1) X < 500

(2) Y < 400