1

Is a even?

(1) 2a is even.
(2) $\sqrt{a}$ is even.

2

How many different prime numbers are factors of positive integer n?

(1) 4 different prime numbers are factors of 2n
(2) 4 different prime numbers are factors of n^2

3

If Z is an integer, is Z prime?

(1) 15! < Z
(2) 17! + 2 ≤ Z ≤ 17! + 17

4

If y is a positive integer, is $\sqrt{y}$ an integer?

(1) $\sqrt{4y}$ is not an integer.
(2) $\sqrt{5y}$ is an integer.