

# Mathematics

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(Chapter – 5) (Introduction to Euclid’s Geometry)(Exemplar Problems)  
(Class – IX)

## Exercise 5.4

### Question 2:

Study the following statement:

“Two intersecting lines cannot be perpendicular to the same line”.

Check whether it is an equivalent version to the Euclid’s fifth postulate.

[**Hint:** Identify the two intersecting lines  $l$  and  $m$  and the line  $n$  in the above statement.]

### Answer 2:

Two equivalent versions of Euclid’s fifth postulate are

- *For every line  $L$  and for every point  $P$  not lying on  $L$ , there exists a unique line  $M$  passing through  $P$  and parallel to  $L$ .*
- *Two distinct intersecting lines cannot be parallel to the same line.*

From above two segments it is clear that given statement is not an equivalent version to the Euclid’s fifth postulate.

