

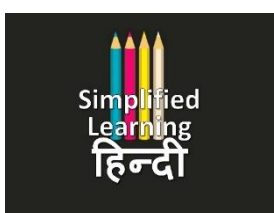
Simplified Learning's
Civil Engineering Revision Sheet
Topic – Failure of Joints [Plate
Failures]
Subject - Design of Steel Structures

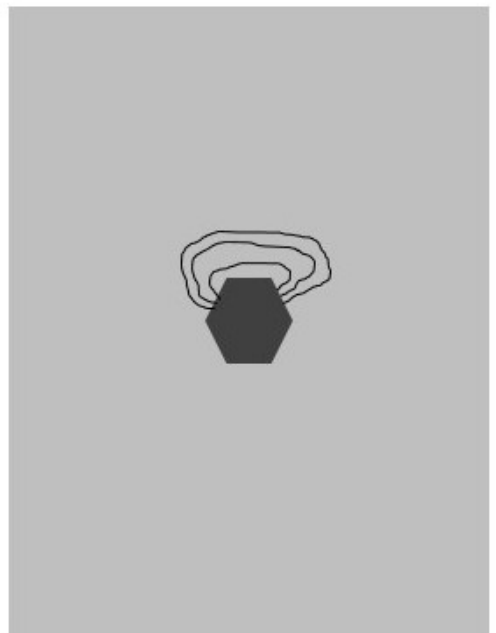
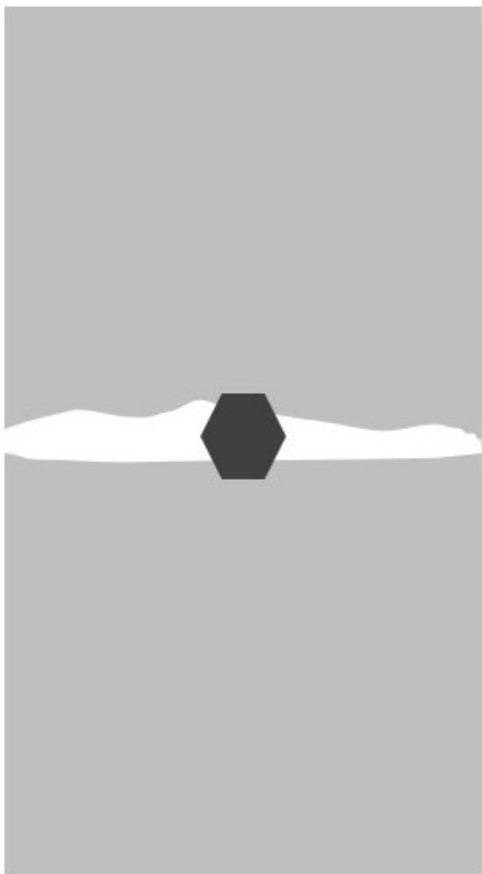
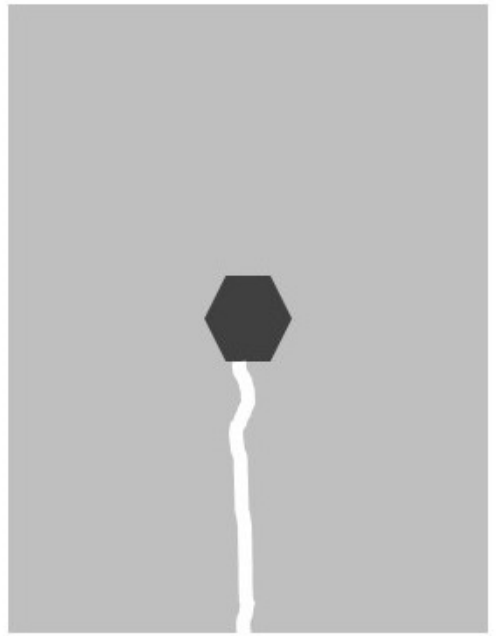
What's in the Sheet:

- 1. Diagrams showing joint failure modes due to plate**
- 2. Try clicking the relevant image of failure as asked in the question**

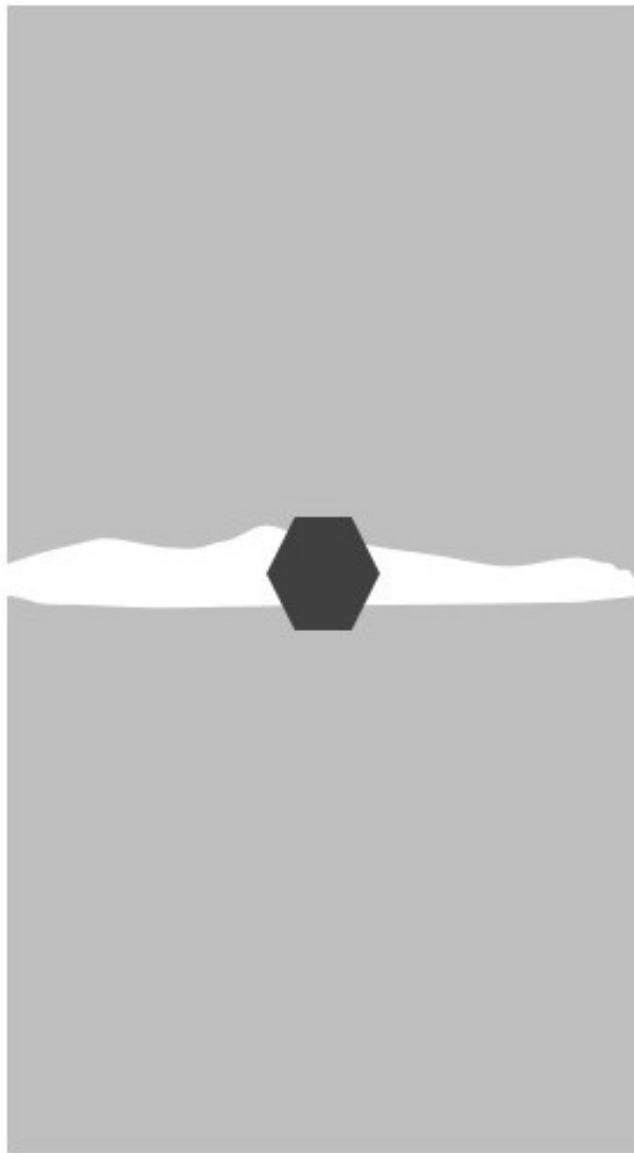
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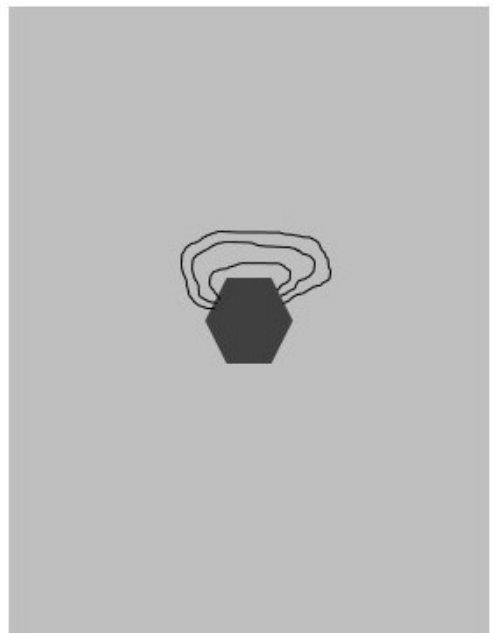
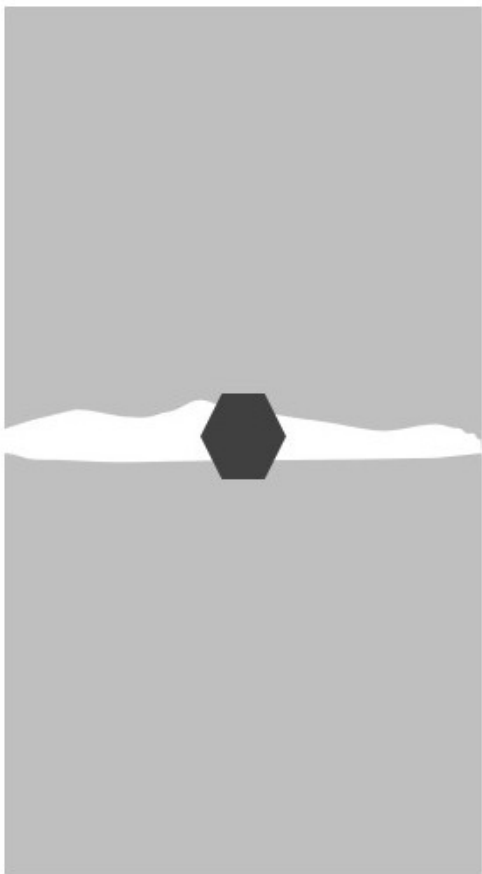
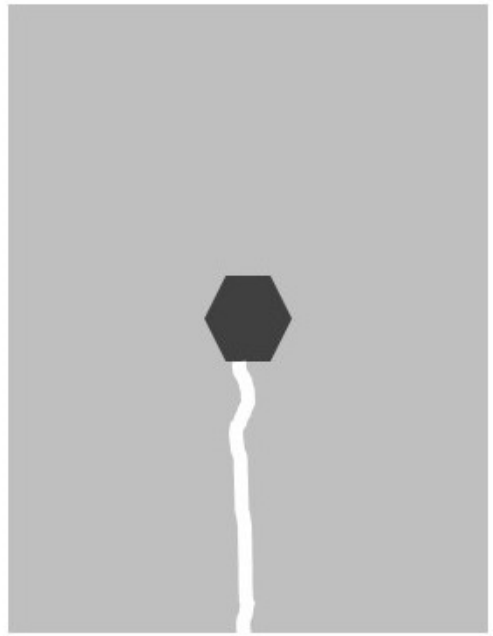


Which image correctly represents the tensile failure of plate?



That's right. Tensile failure of a plate takes place when tension across the cross section of plate exceeds the safe tension value and bolt is stronger than the plate

[Go to next question](#)



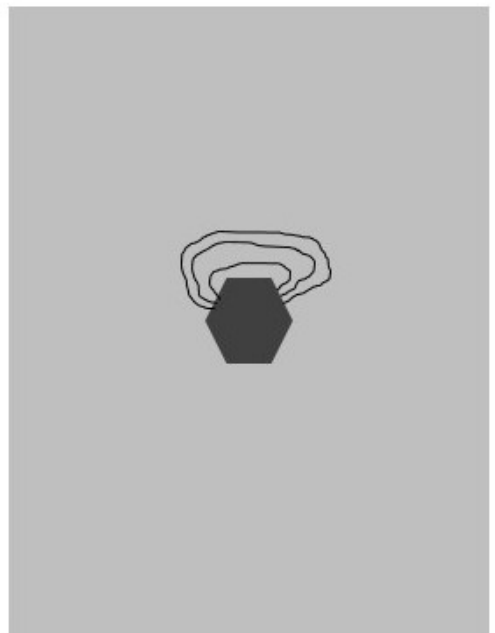
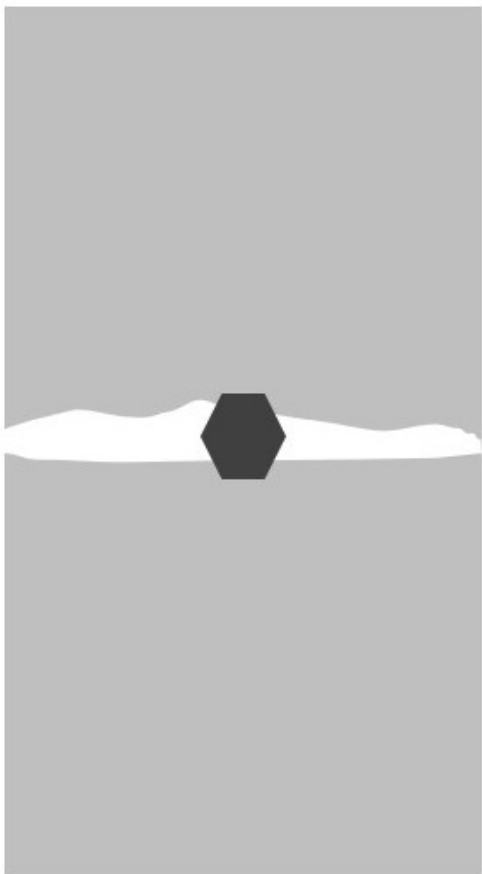
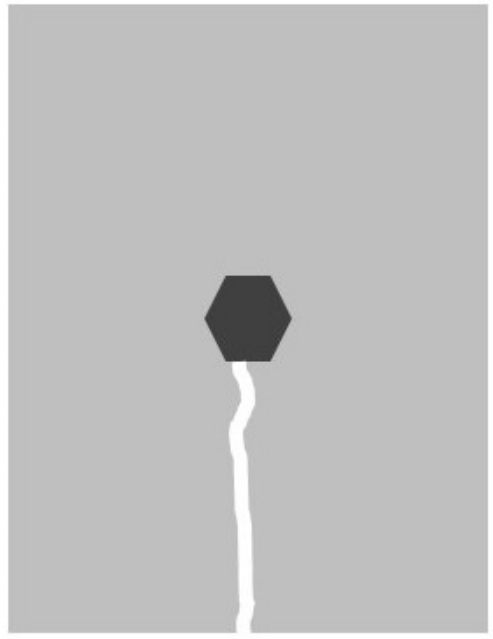
Which image correctly represents the shearing failure of plate?



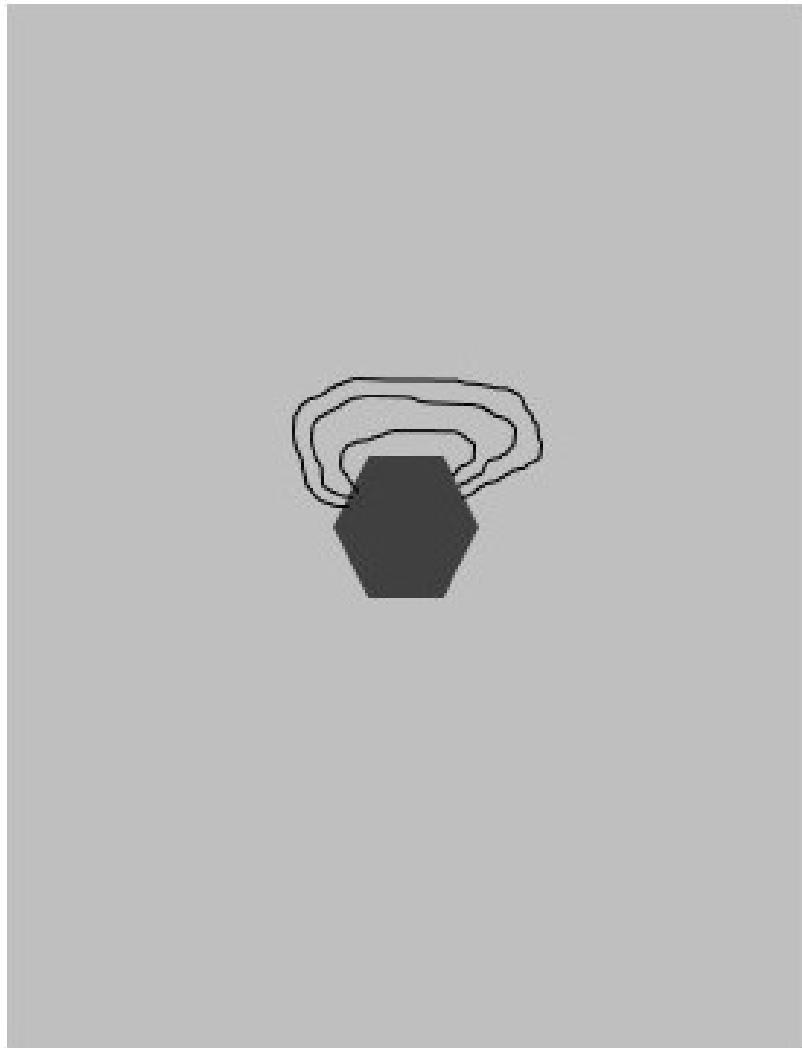
Perfect!

When applied stress exceeds the shear capacity of plate material, shear plane formation takes place that take away a portion of plate.

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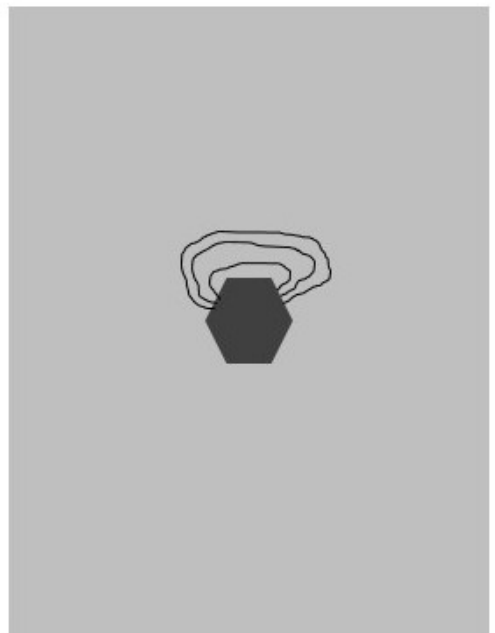
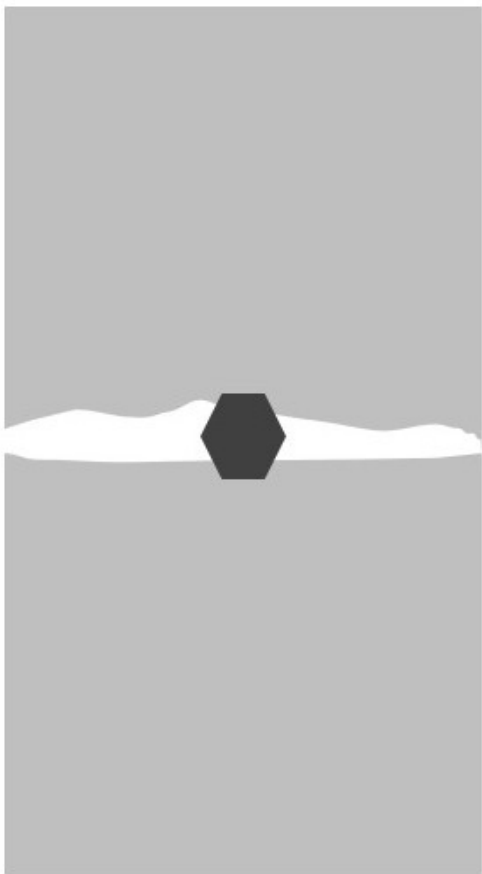
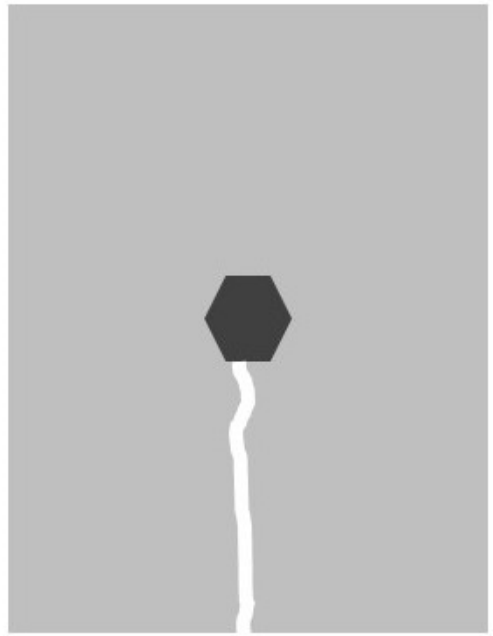


Which image correctly represents the bearing failure of plate?

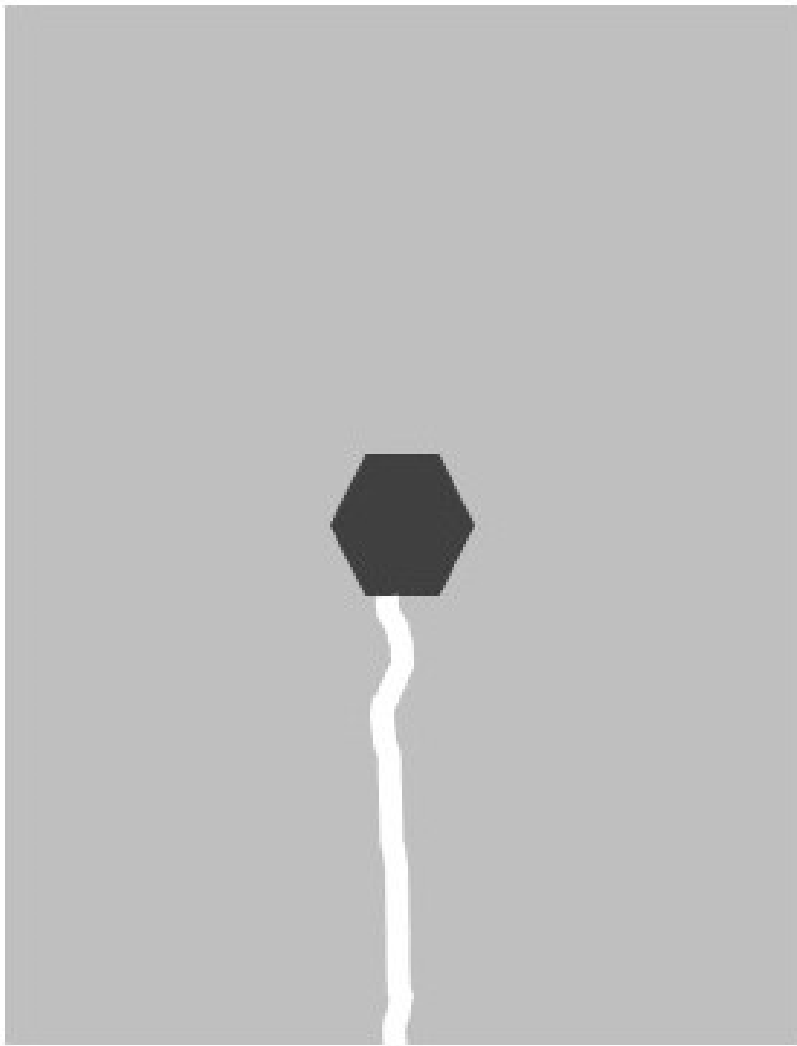


Right!
When applied load crosses the elastic limit of plate, the plate undergoes deformation at the bolted portion

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Which image correctly represents the cleavage failure of plate?



Correct!

It is a brittle transgranular fracture by separation across well-defined crystallographic plane of the plate material

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