

Question 9: Tectonic plates (20 marks)

9.1.

1 Caribbean plate

2 North American plate

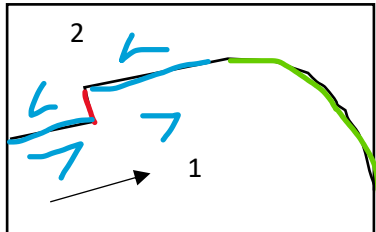
3 Cocos plate

4 Eurasian plate

5 Antarctic plate

9.2. The plates refer to the rheological lithosphere, the hard brittle outer shell of the earth. This includes the crust as well as the lithospheric mantle.

9.3.



Red = spreading ridge

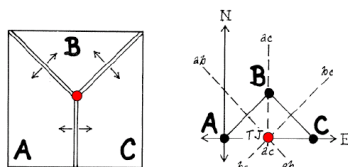
Blue = transform, in this case sinistral

Green = subduction zone

9.4.

Triple junctions stability

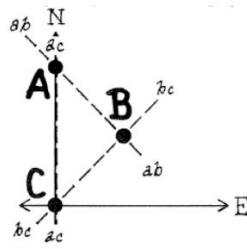
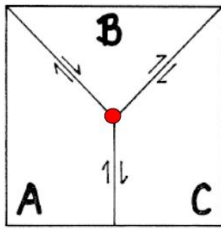
- Plot all three plate boundaries in velocity space
- If they cross in the same spot, the intersection is the **TJ is stable**
- The intersection is the velocity of the TJ and how it will move relative to the plates
- If they do not cross the **TJ is dynamically unstable**
- TJ will cease to exist and evolve to a stable configuration



- **RRR** TJs are **ideally stable** because perpendicular bisectors of a triangle always intersect in a single point!
IF spreading is symmetrical

Triple junctions stability

- **FFF** TJs always unstable!



Question 10: Paleomagnetism (20 marks)

See lecture B10 slides