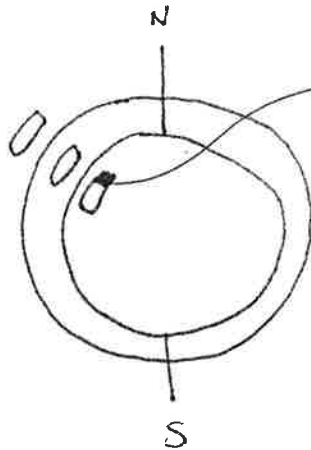


(Iron, loadstone and the earth)

Ex 1.1

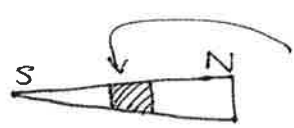
Assume that the north pole of earth is a true north



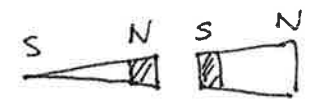
white chalk marks northernmost end of loadstone. Thus the white end is also = true north.



white chalk is rubbed against tip of needle. This makes the tip a true south.

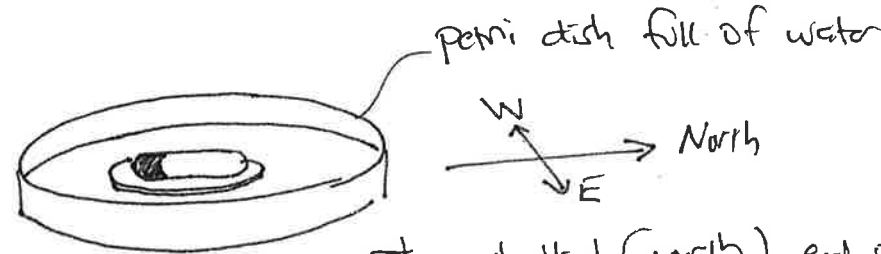


Midpoint is painted red.



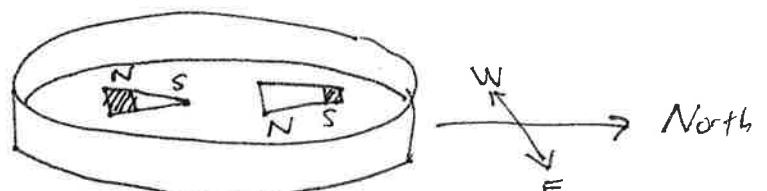
Needle is snipped in half. The poles are then as follows

a)



The chalked (north) end of the loadstone will face southwards when floated in a boat.

b)



The red ends of the iron needle will point in opposite direction, as shown above.

c)

The red ends are of different polarity. The red end accompanying the tip of the needle has the same polarity as the white end of the loadstone.