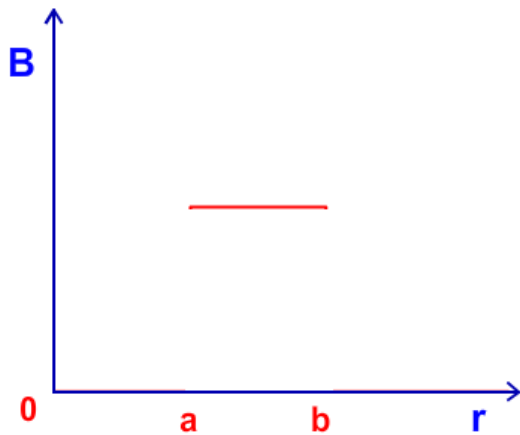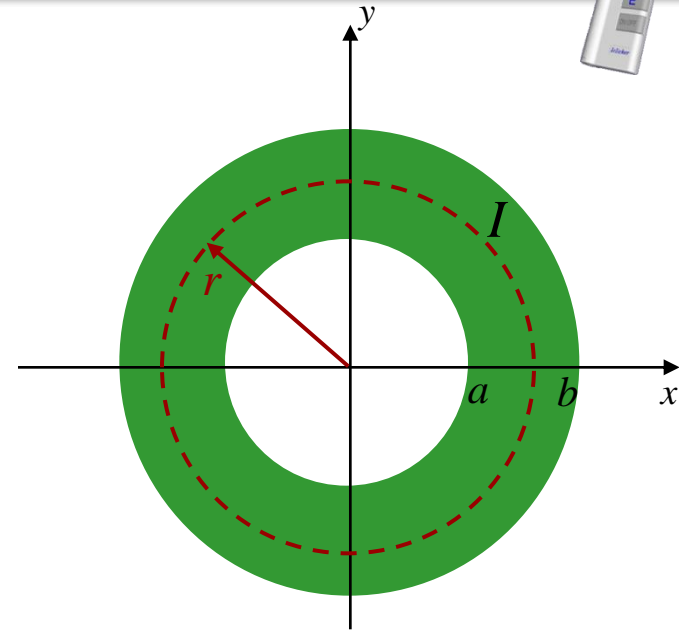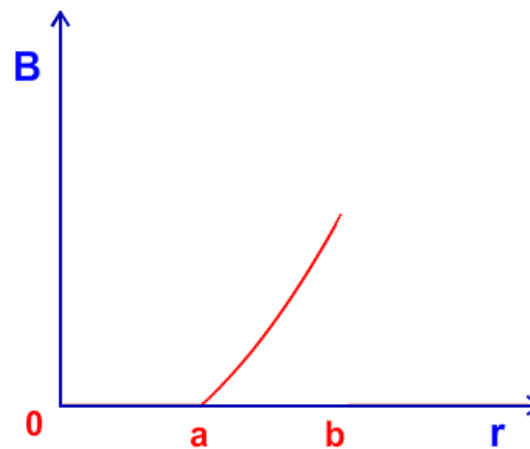What does $|B|$ look like for $a < r < b$?
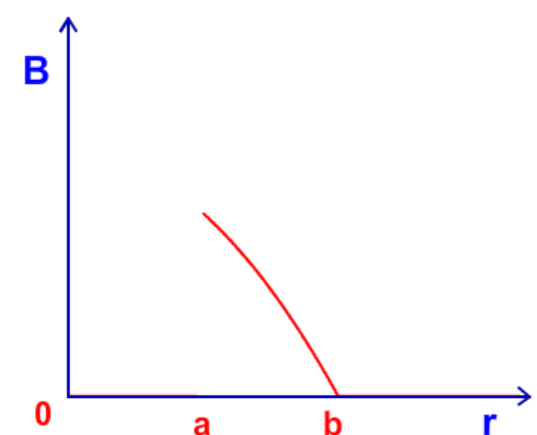

A

B

C