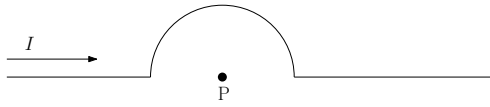
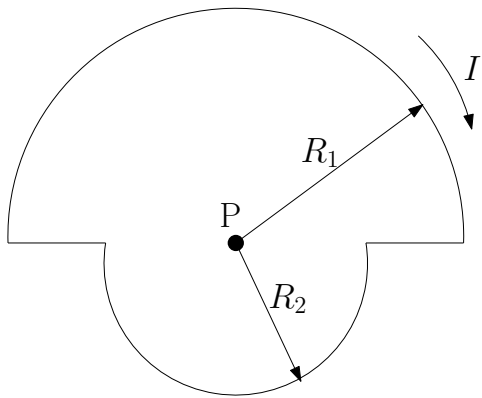


1. (a) Compute the magnetic field is at point P if point P is in the same plane as the wire and loop. (b) Suppose point P is out of the page at position z. Compute the field again.



2. Consider the configuration below. What is the B-field as point P?



3. Suppose I have a cylindrical wire of radius R through which a current I flows uniformly through it. What is the magnetic field as a function of radius? Be sure to draw the curve over which you will apply Ampere's law.

4. Consider a solenoid with n turns per unit length and carries a current I . Assume that the magnetic field is parallel to the solenoid inside of it and zero outside. Find the B-field inside the solenoid assuming that it is uniform. Be sure to draw the curve over which you will apply Ampere's law.