

Exercise 1

A conductor in the shape of an n-sided polygon of side a carries current I . Calculate the magnitude of the magnetic field at the centre of the polygon.

[Ans. $(\mu_0 I n / \pi a) \sin(\pi/n)$.]

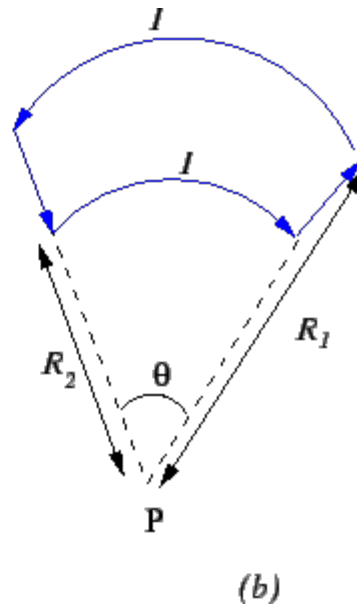
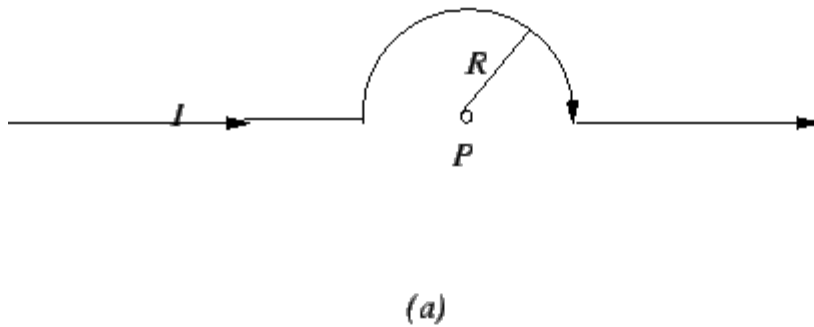
Exercise 2

Find the magnetic moment of the rotating disk of Example 7.

[Ans. $\pi\omega R^4/4$]

Exercise 3

Determine the magnetic field at the point P for the two geometries shown in the figures below.



[Ans . (a) $\mu_0 I / 4R$ (b) $\frac{\mu_0 I (R_1 - R_2) \theta}{4\pi R_1 R_2}$]