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.

\[
\text{Ans. } \frac{\mu_0 I n}{\pi a} \sin(\pi/n).
\]

Exercise 2

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

\[
\text{Ans. } \pi \omega R^4/4.
\]

Exercise 3

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

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