34. We use Ampere's law: $\oint \vec{B}\cdot d\vec{s} = \mu_0 i$, where the integral is around a closed loop and i is the net current through the loop. For path 1, the result is

$$\begin{aligned}\oint_1 \vec{B}\cdot d\vec{s} &= \mu_0(-5.0\,\mathrm{A} + 3.0\,\mathrm{A}) = (-2.0\,\mathrm{A})(4\pi\times 10^{-7}\,\mathrm{T\cdot m/A}) \\ &= -2.5\times 10^{-6}\ \mathrm{T\cdot m}\ .\end{aligned}$$

For path 2, we find

$$\begin{aligned}\oint_2 \vec{B}\cdot d\vec{s} &= \mu_0(-5.0\,\mathrm{A} - 5.0\,\mathrm{A} - 3.0\,\mathrm{A}) = (-13.0\,\mathrm{A})(4\pi\times 10^{-7}\,\mathrm{T\cdot m/A}) \\ &= -1.6\times 10^{-5}\ \mathrm{T\cdot m}\ .\end{aligned}$$