24. We label these wires 1 through 5, left to right, and use Eq. 30-15 (divided by length). Then,

$$\begin{aligned}\vec{F}_1 &= \frac{\mu_0 i^2}{2\pi}\left(\frac{1}{d}+\frac{1}{2d}+\frac{1}{3d}+\frac{1}{4d}\right)\hat{\mathrm{j}} = \frac{25\mu_0 i^2}{24\pi d}\,\hat{\mathrm{j}} \\ &= \frac{(13)(4\pi\times 10^{-7}\,\mathrm{T\cdot m/A})(3.00\,\mathrm{A})^2(1.00\,\mathrm{m})\hat{\mathrm{j}}}{24\pi(8.00\times 10^{-2}\,\mathrm{m})} \\ &= 4.69\times 10^{-5}\,\mathrm{N/m}\;\hat{\mathrm{j}}\;;\end{aligned}$$

$$\vec{F}_2 = \frac{\mu_0 i^2}{2\pi}\left(\frac{1}{2d}+\frac{1}{3d}\right)\hat{\mathrm{j}} = \frac{5\mu_0 i^2}{12\pi d}\,\hat{\mathrm{j}} = 1.88\times 10^{-5}\,\mathrm{N/m}\;\hat{\mathrm{j}}\;;$$

$F_3 = 0$ (because of symmetry); $\vec{F}_4 = -\vec{F}_2$; and $\vec{F}_5 = -\vec{F}_1$.