Magnetic Field (B) Due to a Current (i) in a Long Straight Wire is given by: (μ0= 4πx10-7 T.m/A)

P 78, Chap 29: Figure [29-84](http://edugen.wiley.com/edugen/courses/crs1650/reference/xlinks/halliday8019c29xlinks.xform?id=halliday8019c29-fig-0084) shows, in cross section, two long parallel wires spaced by distance http://edugen.wiley.com/edugen/courses/crs1650/art/math/halliday8019c29/math296.gif. Each carries 4.23 A, out of the page in wire 1 and into the page in wire 2. In unit-vector notation, what is the magnetic field at point *P* at distance http://edugen.wiley.com/edugen/courses/crs1650/art/math/halliday8019c29/math297.gif?

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| http://edugen.wiley.com/edugen/courses/crs1650/art/common/pixel.gif | |  | | --- | | http://edugen.wiley.com/edugen/courses/crs1650/art/common/pixel.gif | | |  |  |  | | --- | --- | --- | | |  | | --- | | http://edugen.wiley.com/edugen/courses/crs1650/art/common/pixel.gif | | http://edugen.wiley.com/edugen/courses/crs1650/art/images/halliday8019c29/image_t/tfg084.gif | | | |

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|  | Chap 28, P85: A http://edugen.wiley.com/edugen/courses/crs1650/art/math/halliday8019c28/math285.gifparticle moves through a region containing the magnetic field http://edugen.wiley.com/edugen/courses/crs1650/art/math/halliday8019c28/math286.gifand the electric field field. At one instant the velocity of the particle is http://edugen.wiley.com/edugen/courses/crs1650/art/math/halliday8019c28/math288.gif.  (a)At that instant and in unit-vector notation, what is the net electromagnetic force (the sum of the electric and magnetic forces) on the particle? (b) What is the angle between velocity and net force? |
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