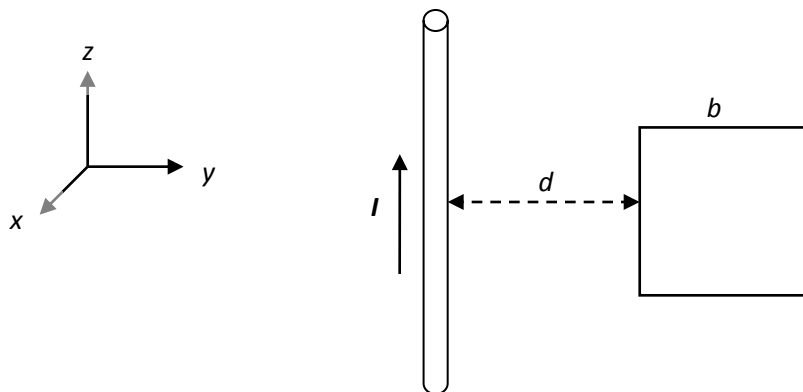


PY212  
**Quiz 8**

An infinite wire with current,  $I = I_0 e^{-at}$  with  $a > 0$  is a distance  $d$  away from a square loop with sides  $b$ . The wire has a total resistance  $R$ . Answer the following questions about the magnetic flux through the square loop and show all your work.

a.) In the diagram below, draw the direction of the induced current in the loop. Explain.



b.) Solve for the total flux through the loop.

c.) Solve for the induced current in the loop.