General Physics 2 | 4th Quarter

WW2: Magnetic Induction

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1. A rectangular loop of wire that is wide and long is placed in a region where the magnetic field is and directed perpendicular to the plane of the loop. What is the magnitude of the magnetic flux through the loop?
2. The magnetic flux through a loop of wire is . If the magnetic field has magnitude , what is the smallest possible value for the area of the loop?
3. Calculate the inductance of a solenoid that is long and in diameter, with turns of wire.
4. Calculate the self-inductance of a long, diameter solenoid that has coils.