What the Flux?!?

Flux is the product of perpendicular field and area, Φ = BꓕA=BAꓕ. For each of the following the Triple Line: indicates a wire or “loop” while the dotted line: indicates the boundary of a region of uniform magnetic field.

So…… What the Flux?!?

 B=0.80T in

0.40m

 0.18m

 0.60m

 B=0.80T out

 0.40m 0.18m

 0.60m

 B=0.80T in

0.16m 0.18m

 0.20m

 B=0.80T right

 0.40m 0.18m

 0.60m

The region of magnetic field has a radius r. The smaller loop has a radius R>r. The larger loop has a radius 2R. The flux in the smaller loop is 0.50Wb. What is the flux in the larger loop?

The region of magnetic field has a radius r. The larger loop has a radius R<r. The smaller loop has a radius ½R. The flux in the smaller loop is 0.50Wb. What is the flux in the larger loop?

The field is 0.50T to the right. The coil has an area of 0.80m2 and its face is in a plane perpendicular to the page. θ=38o. The coil consists of 100 loops.What is the flux through the entire coil.

θ