(G 6, Ch. 20, P2)

$$F = I\ell B \sin\theta$$

$$= (150\,A)(160\,m)(5\times10^{-5}\,T)\sin 65°$$

$$= 1.09\,N$$

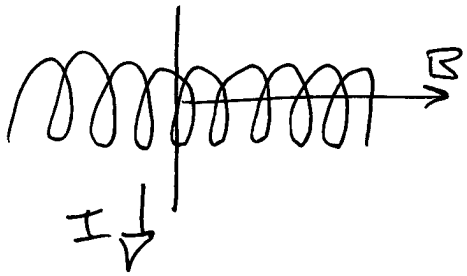
(G 6, Ch 20, P50)

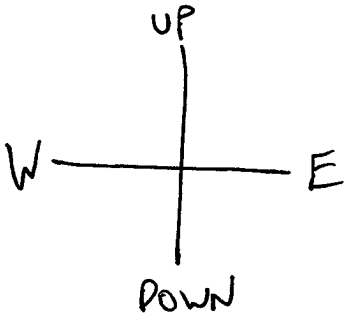
$$B = \frac{\mu_0 N I}{\ell} = \frac{(4\pi\times10^{-7}\,T\cdot m/A)(550)(33\,A)}{(0.15\,m)}$$

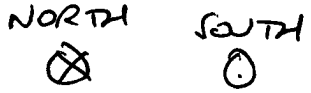
$$= 0.152\,T$$

$$F = I\ell B \sin\theta$$

$$= (22A)(0.03\,m)(0.152\,T)\sin 90°$$







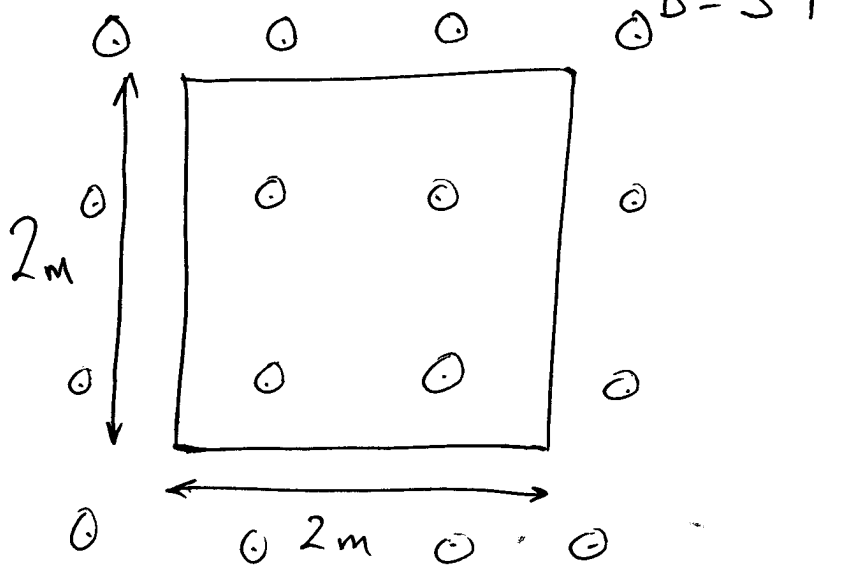
$F = 0.1\,N$ SOUTH

FARADAY'S LAW

- FARADAY'S LAW DESCRIBES THE THEORY OF HOW POWER PLANTS GENERATE ELECTRICITY.
- EMF
  - A GENERALIZATION OF VOLTAGE
  - MEASURED IN VOLTS
  - LIKE UMPF (ËMF) SYMBOL: $\mathcal{E}$
- MAGNETIC FLUX
  - SYMBOL = Φ_B
  - UNIT: WEBER (Wb) $Wb = T \cdot m^2$
  - SETTING: NEED A SURFACE

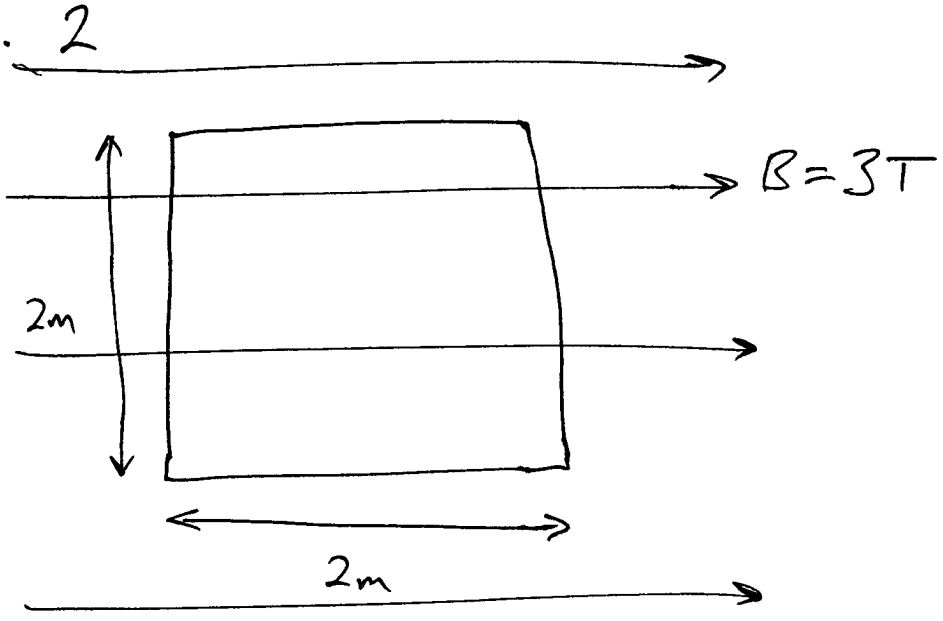
    TALK ABOUT MAGNETIC FLUX THROUGH A SURFACE.

EX. 1



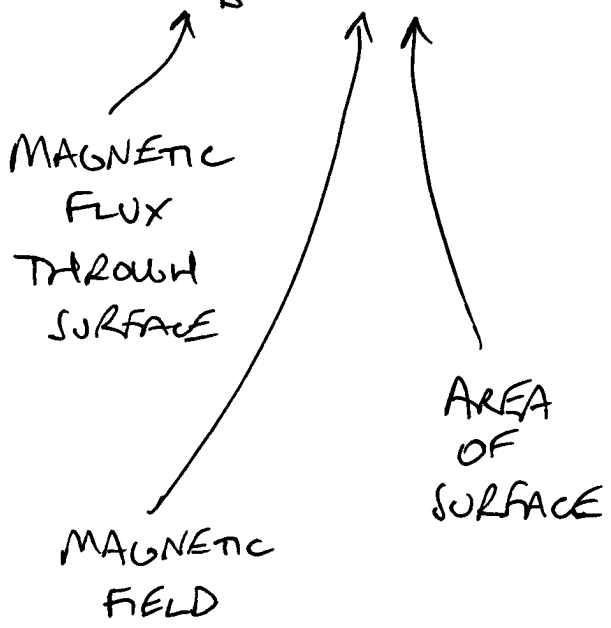
$$\Phi_B = (3T)(4m^2) = 12\ T\cdot m^2 = 12\ Wb$$

EX. 2



$$\Phi_B = 0$$

$$\Phi_B = BA\cos\theta$$



θ = ANGLE BETWEEN $\vec{B}$ AND A VECTOR $\perp$ TO SURFACE.