Total: 22 points

Homework Chapter 11.1 & 11.2

Exercises: 1, 4, 5, 6, 9, 17, 19, 21, 22, 23, 25

E.1 No. Magnetic monopoles have never been found, and the forces between magnetic dipoles depend on their relative orientations. Unlike – attract; like – repel.

E4. The button magnet will magnetize the pipe. The new magnet (pipe) is created so that it will attract the button magnet.

E.5 The magnetic domains will align with the strong outside magnetic field. In other words, the domains aligned with the new applied field grow, while those that are anti-aligned with that field shrink.

E.6 The magnetic domains will align randomly, and, thus, there will be no resulting magnetic field.

E.9 They are equal, since magnetic field lines are continuous.

E.17 It will consume 40 W. (Light bulbs can run with AC or DC, and they will consume the same amount of power).

E.19 Only a moving magnet or changing magnetic field will produce the electric field necessary to push currents through coil inside the playback head.

E.21 $\frac{V_p}{V_s} = \frac{N_p}{N_s} \rightarrow N_s = 20$ turns.

E. 22 E.21 $\frac{V_p}{V_s} = \frac{N_p}{N_s} \rightarrow N_s = 8000$ turns.

E.23 E.21 $\frac{V_p}{V_s} = \frac{N_p}{N_s} \rightarrow V_s = 40$-V AC.

E.25 E.21 $\frac{V_p}{V_s} = \frac{I_s}{I_p} \rightarrow I_s = 9$ A.