18. Minimum Ampacity for Neutral Service-Entrance Conductor, *220.61* and *310.15(B)(7)*. Do Not Include Straight 240-Volt Loads.

a. Line 6: = _____ VA

b. Line 7: _____ @ 0.70 = _____ VA

c. Line 8: _____ @ 0.70 = _____ VA

d. Line 11: (Include only 120-volt loads.)

_____ _____ VA

_____ _____ VA

_____ _____ VA

_____ _____ VA

_____ _____ VA

Total _____ VA

e. Line d total @ 75% demand factor if four or more per *220.53*, otherwise use 100%.

_____ × 0.75 = _____ VA

f. Add 25% of largest 120-volt motor.

_____ × 0.25 = _____ VA

Total = _____ VA

g. Total a + b + c + e + f. = _____ VA

$$\text{Amperes} = \frac{\text{Line g}}{240} = \frac{\text{_____}}{240} = \text{_____ amperes}$$

19. Neutral Conductor Size (copper)(*220.61*). _____ AWG

Note: *NEC 310.15(B)(7)* permits the neutral conductor to be smaller than the ungrounded "hot" conductors if the requirements of *215.2, 220.61*, and *230.42* are met. *NEC 220.61* states that a feeder or service neutral load shall be the maximum unbalance of the load determined by *Article 220*. When bare conductors are used with insulated conductors, the conductors' ampacity is based on the lowest temperature rating of the insulated conductors in the raceway, *310.15(B)(4)*. The neutral conductor shall not be smaller than the grounding electrode conductor, *250.24(C)(1)*.

20. Grounding Electrode Conductor Size (copper) (*Table 250.66*). _____ AWG

21. Raceway Size. _____ Trade Size

Obtain dimensional data from *Table 1*, *Table 4*, *Table 5*, and *Table 8*, *Chapter 9*, *NEC*.