Section I — Percentages

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1. 43 is 48% of what number?

2. 87 is 96% of what number?

3. 43 is what percent of 268.75?

4. 7 is 72% of what number?

5. What is 12% of 107.5?

6. 57 is 48% of what number?

7. What is 12% of 82?

8. What is 96% of 537.5?

Section II — Blueprint Calculations

9. Shape B, Scale = 30, brick job.

10. Shape A, Scale = 36, paint job.

11. Shape D, Scale = 48, tile job.

12. Shape F, Scale = 24, wire job.

13. Shape F, Scale = 50, caulking job.

14. Shape M, Scale = 48, tile job.

15. Shape L, Scale = 50, wire job.

16. Shape N, Scale = 8, panel job.

Section III — Carbon Footprint

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17. How many pounds of CO2 are released by burning 378 pounds of Aspen?

18. Room A's Floor, made of Straw slab insulation, compressed, if inside is 77°F and outside is 10°F?

19. How many pounds of CO2 are released by burning 101 pounds of Apple?

20. How many pounds of CO2 are released by burning Bituminous coal for 5 hours in a ULT 399?

21. How many mmBTUs are generated by burning 197 pounds of Red Oak?

22. Alcohol, ethyl 32oF (ethanol) cycle, 1196 (lb/hr) flowrate, outside is 44°F, inside 87°F?

23. Room A's Ceiling, made of Sheep wool, if inside is 85°F and outside is 80°F?

24. How many mmBTUs are generated by burning 404 pounds of Hickory?

Section IV — Green Building

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25. How many mmBTUs are generated by burning 350 pounds of Jack Pine?

26. Ammonia, 104oF cycle, 643 (lb/hr) flowrate, outside is 84°F, inside 87°F?

27. How many mmBTUs are generated by running a GC90+5 for 4 weeks?

28. Room B's Wall #1, made of Timber, walnut, if inside is 68°F and outside is 49°F?

29. Sodium hydrate cycle, 1056 (lb/hr) flowrate, outside is 50°F, inside 85°F?

30. Room B's Ceiling, made of Timber, alder, if inside is 77°F and outside is 84°F?

31. How many mmBTUs are generated by running a EVG 399 for 5 hours?

32. Alcohol, ethyl 104oF (ethanol) cycle, 738 (lb/hr) flowrate, outside is 42°F, inside 66°F?