Section I — Percentages

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1. What is 15% of 13.75?

2. What is 64% of 443.75?

3. 17 is what percent of 425?

4. What is 48% of 166?

5. 67 is what percent of 418.75?

6. 53 is what percent of 331.25?

7. What is 12% of 209.375?

8. 93 is what percent of 2325?

Section II — Blueprint Calculations

9. Shape A, Scale = 36, wire job.

10. Shape B, Scale = 30, carpet job.

11. Shape D, Scale = 30, carpet job.

12. Shape G, Scale = 8, molding job.

13. Shape J, Scale = 50, baseboard job.

14. Shape L, Scale = 30, brick job.

15. Shape L, Scale = 24, brick job.

16. Shape P, Scale = 32, brick job.

Section III — Carbon Footprint

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17. Carbon Tetrachloride cycle, 1321 (lb/hr) flowrate, outside is 46°F, inside 45°F?

18. Aniline cycle, 559 (lb/hr) flowrate, outside is 64°F, inside 84°F?

19. How many mmBTUs are generated by burning 94 pounds of Jack Pine?

20. Room C's Ceiling, made of Wood, oak, if inside is 55°F and outside is 100°F?

21. How many pounds of CO2 are released by burning crude oil (No. 1) for 2 months in a CGi-7?

22. How many pounds of CO2 are released by burning Bituminous coal for 9 days in a EVG 110?

23. Room A's Wall #3, made of Hastelloy C, if inside is 72°F and outside is 36°F?

24. How many mmBTUs are generated by burning 490 pounds of Aspen?

Section IV — Green Building

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25. Room A's TSA, made of Cellulose, cotton, wood pulp, if inside is 77°F and outside is 8°F?

26. Ammonia, 104oF cycle, 777 (lb/hr) flowrate, outside is 51°F, inside 71°F?

27. How many mmBTUs are generated by burning 219 pounds of Elm?

28. How many pounds of CO2 are released by burning motor gasoline for 4 weeks in a CGi-6?

29 Room C's Wall #4, made of Brick dense, if inside is 81°F and outside is 92°F?

30 Room B's Wall #4, made of Fire-clay brick 500oC, if inside is 79°F and outside is 24°F?

31 How many mmBTUs are generated by running a ET 110-H for 7 hours?

32 How many mmBTUs are generated by burning 56 pounds of Balsam Fir?