

Section I – Percentages

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1. 13 is what percent of 16.25?
2. 67 is what percent of 268?
3. What is 64% of 68?
4. What is 12% of 142.5?
5. 73 is what percent of 456.25?
6. 53 is what percent of 265?
7. 17 is 15% of what number?
8. 91 is 72% of what number?

Section II – Blueprint Calculations

9. Shape D, Scale = 32, molding job. 13. Shape I, Scale = 8, pipe job.

10. Shape D, Scale = 24, molding job. 14. Shape R, Scale = 35, caulking job.

11. Shape B, Scale = 24, wire job. 15. Shape L, Scale = 50, pipe job.

12. Shape I, Scale = 15, paint job. 16. Shape N, Scale = 48, brick job.

Section III – Carbon Footprint

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17. How many pounds of CO₂ are released by burning 158 pounds of Apple?
18. How many mmBTUs are generated by burning 95 pounds of Hackberry?
19. How many mmBTUs are generated by running a ET 110-C for 4 hours?
20. How many mmBTUs are generated by burning 487 pounds of Norway Pine?
21. Room C's Wall #3, made of Ground or soil, very dry area, if inside is 68°F and outside is 20°F?
22. Hexane cycle, 602 (lb/hr) flowrate, outside is 51°F, inside 60°F?
23. How many pounds of CO₂ are released by burning propane for 3 weeks in a CGi-25?
24. How many pounds of CO₂ are released by burning butane for 4 weeks in a EVG 110?

Section IV – Green Building

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25. Room A's Floor, made of Asbestos mill board, if inside is 84°F and outside is 63°F?
26. How many mMBTUs are generated by burning 259 pounds of Cherry?
27. Propyl Alcohol cycle, 922 (lb/hr) flowrate, outside is 84°F, inside 45°F?
28. How many pounds of CO₂ are released by burning 111 pounds of Apple?
29. Propane, 320°F cycle, 880 (lb/hr) flowrate, outside is 66°F, inside 87°F?
30. How many pounds of CO₂ are released by burning 284 pounds of Jack Pine?
31. How many pounds of CO₂ are released by burning 164 pounds of White Ash?
32. Room A's Wall #2, made of Bitumen, if inside is 55°F and outside is 53°F?