

Section I – Percentages

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1. 51 is what percent of 1020?
2. What is 48% of 111.25?
3. 87 is what percent of 1740?
4. 13 is what percent of 65?
5. 89 is 72% of what number?
6. 17 is 15% of what number?
7. 13 is 12% of what number?
8. 67 is what percent of 418.75?

Section II – Blueprint Calculations

9. Shape B, Scale = 24, caulking job.

13. Shape I, Scale = 30, brick job.

10. Shape A, Scale = 8, paint job.

14. Shape K, Scale = 24, pipe job.

11. Shape A, Scale = 8, molding job.

15. Shape M, Scale = 15, paint job.

12. Shape F, Scale = 50, paint job.

16. Shape Q, Scale = 32, wire job.

Section III – Carbon Footprint

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17. How many mmBTUs are generated by running a CGa-8 for 2 months?
18. Methyl Alcohol cycle, 1025 (lb/hr) flowrate, outside is 54°F, inside 89°F?
19. Glycerine cycle, 1326 (lb/hr) flowrate, outside is 46°F, inside 46°F?
20. How many pounds of CO₂ are released by burning 261 pounds of Black Spruce?
21. Room B's Wall #3, made of Timber, red beech, if inside is 71°F and outside is 101°F?
22. Acetone cycle, 965 (lb/hr) flowrate, outside is 88°F, inside 89°F?
23. How many pounds of CO₂ are released by burning kerosene for 3 days in a EVG 220?
24. Room B's Wall #1, made of Wood across the grain, yellow pine, if inside is 62°F and outside is 94°F?

Section IV – Green Building

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25. How many mmBTUs are generated by running a EG-30 for 1 days?
26. How many pounds of CO₂ are released by burning 138 pounds of Yellow Birch?
27. Room B's Wall #1, made of Glass, Pearls, dry, if inside is 84°F and outside is 103°F?
28. Room A's Floor, made of Hardwoods (oak, maple..), if inside is 78°F and outside is 21°F?
29. Room C's Wall #2, made of Silicon oil, if inside is 55°F and outside is 23°F?
30. How many pounds of CO₂ are released by burning 225 pounds of Sugar Maple?
31. How many pounds of CO₂ are released by burning 91 pounds of White Pine?
32. How many pounds of CO₂ are released by burning 168 pounds of Tamarack?