

Section I – Percentages

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1. 59 is 15% of what number?
2. 47 is 24% of what number?
3. What is 72% of 102?
4. 7 is 36% of what number?
5. 59 is what percent of 236?
6. 17 is 48% of what number?
7. 23 is what percent of 575?
8. 73 is 72% of what number?

Section II – Blueprint Calculations

9. Shape D, Scale = 24, caulking job. 13. Shape J, Scale = 8, baseboard job.
10. Shape D, Scale = 50, molding job. 14. Shape M, Scale = 24, molding job.
11. Shape D, Scale = 30, wire job. 15. Shape R, Scale = 48, carpet job.
12. Shape H, Scale = 8, tile job. 16. Shape O, Scale = 50, caulking job.

Section III – Carbon Footprint

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17. Alcohol, propyl cycle, 1336 (lb/hr) flowrate, outside is 62°F, inside 65°F?
- 21 Room A's Wall #4, made of Glass, if inside is 56°F and outside is 87°F?
18. Room C's Ceiling, made of Concrete, stone, if inside is 56°F and outside is 79°F?
- 22 How many pounds of CO₂ are released by burning 489 pounds of Cottonwood?
19. Room B's Wall #1, made of Mineral wool insulation materials, if inside is 75°F and outside is 98°F?
- 23 Room C's Floor, made of Fiberglass, if inside is 69°F and outside is 23°F?
20. Room B's Wall #2, made of Styrofoam, if inside is 77°F and outside is 74°F?
- 24 How many pounds of CO₂ are released by burning natural gas for 10 months in a CGa-6?

Section IV – Green Building

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25. How many mmBTUs are generated by running a GC90+5 for 3 days?
29. Dodecane cycle, 1341 (lb/hr) flowrate, outside is 88°F, inside 85°F?
26. How many mmBTUs are generated by burning 451 pounds of Hackberry?
30. Room A's Wall #4, made of Plywood, if inside is 60°F and outside is 9°F?
27. Ethylene glycol cycle, 890 (lb/hr) flowrate, outside is 52°F, inside 53°F?
31. How many mmBTUs are generated by burning 54 pounds of Black Ash?
28. How many mmBTUs are generated by running a ULT 230 for 3 days?
32. How many mmBTUs are generated by burning 411 pounds of Hemlock?