

Section I — Percentages

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1. What is 24% of 775?
2. 73 is 36% of what number?
3. What is 36% of 104.6875?
4. 71 is what percent of 142?
5. What is 96% of 118.75?
6. 89 is 64% of what number?
7. What is 36% of 92?
8. 19 is what percent of 475?

Section II — Blueprint Calculations

9. Shape A, Scale = 32, brick job.

13. Shape J, Scale = 36, paint job.

10. Shape B, Scale = 8, molding job.

14. Shape R, Scale = 8, caulking job.

11. Shape E, Scale = 50, caulking job.

15. Shape L, Scale = 35, carpet job.

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

16. Shape P, Scale = 15, wire job.

Section III — Carbon Footprint

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17. Room A's 4 Walls, made of Plastics, foamed , if inside is 72°F and outside is 102°F?
21. Alcohol, methyl. 40 - 50°F cycle, 757 (lb/hr) flow-rate, outside is 51°F, inside 86°F?
18. How many mmBTUs are generated by burning 106 pounds of Sugar Maple?
22. Methyl Alcohol cycle, 1084 (lb/hr) flowrate, outside is 43°F, inside 89°F?
19. Ammonia, 104°F cycle, 1285 (lb/hr) flowrate, outside is 51°F, inside 66°F?
23. How many mmBTUs are generated by burning 132 pounds of Red Oak?
20. How many pounds of CO₂ are released by burning crude oil (No. 1) for 1 months in a CGi-5?
24. Propylene cycle, 1224 (lb/hr) flowrate, outside is 68°F, inside 40°F?

Section IV — Green Building

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25. n-Butane, 32oF cycle, 795 (lb/hr) flowrate, outside is 52°F, inside 53°F?
26. How many mmBTUs are generated by burning 114 pounds of Jack Pine?
27. How many pounds of CO₂ are released by burning natural gas for 1 months in a CGi-6?
28. Room A's Wall #2, made of Asphalt, if inside is 75°F and outside is 14°F?
29. Ammonia, 238oF cycle, 540 (lb/hr) flowrate, outside is 58°F, inside 83°F?
30. Alcohol, methyl. 60 - 70oF cycle, 1009 (lb/hr) flowrate, outside is 71°F, inside 85°F?
31. How many mmBTUs are generated by running a ULT 299 for 9 weeks?
32. How many mmBTUs are generated by burning 393 pounds of White Pine?