

Section I – Percentages

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1. What is 8% of 212?
2. 41 is 64% of what number?
3. 51 is 72% of what number?
4. 87 is what percent of 543.75?
5. What is 72% of 395?
6. What is 12% of 114.0625?
7. 47 is 15% of what number?
8. 97 is 96% of what number?

Section II – Blueprint Calculations

9. Shape C, Scale = 30, wire job.

13. Shape F, Scale = 36, wire job.

10. Shape E, Scale = 15, panel job.

14. Shape K, Scale = 15, brick job.

11. Shape B, Scale = 48, panel job.

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

12. Shape J, Scale = 35, carpet job.

16. Shape P, Scale = 50, panel job.

Section III – Carbon Footprint

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17. How many mmBTUs are generated by running a CGa-8 for 8 days? 21 How many pounds of CO₂ are released by burning motor gasoline for 10 weeks in a AB-80C?
18. Ammonia, 212oF cycle, 760 (lb/hr) flowrate, outside is 80°F, inside 46°F? 22 Carbon Tetrachloride cycle, 1425 (lb/hr) flowrate, outside is 74°F, inside 68°F?
19. Propane, 32oF cycle, 1394 (lb/hr) flowrate, outside is 60°F, inside 86°F? 23 How many mmBTUs are generated by running a EG-30 for 10 months?
20. Glycerine cycle, 1299 (lb/hr) flowrate, outside is 42°F, inside 47°F? 24 How many pounds of CO₂ are released by burning natural gas for 1 weeks in a CGi-25?

Section IV – Green Building

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25. Room C's 4 Walls, made of Wood across the grain, yellow pine, if inside is 71°F and outside is 42°F? 29. Room A's Wall #1, made of Pitch, if inside is 82°F and outside is 3°F?
26. Ether cycle, 803 (lb/hr) flowrate, outside is 45°F, inside 54°F? 30. How many mmBTUs are generated by running a CGI-6 for 2 weeks?
27. How many mmBTUs are generated by running a EG-50 for 9 weeks? 31. Room C's TSA, made of Polystyrol, if inside is 58°F and outside is 35°F?
28. How many pounds of CO₂ are released by burning diesel fuel for 4 weeks in a GV90+3? 32. How many pounds of CO₂ are released by burning motor gasoline for 1 hours in a CGI-7?