

## Section I – Percentages

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1. 43 is 32% of what number?
2. 93 is what percent of 372?
3. What is 36% of 52?
4. What is 12% of 443.75?
5. 37 is what percent of 74?
6. 51 is what percent of 637.5?
7. 51 is 36% of what number?
8. 31 is 24% of what number?

## Section II – Blueprint Calculations

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

13. Shape G, Scale = 15, paint job.

10. Shape E, Scale = 30, brick job.

14. Shape R, Scale = 30, molding job.

11. Shape E, Scale = 24, tile job.

15. Shape K, Scale = 8, paint job.

12. Shape I, Scale = 32, brick job.

16. Shape Q, Scale = 30, pipe job.

## Section III – Carbon Footprint

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17. Ammonia, 238oF cycle, 1191 (lb/hr) flowrate, outside is 42°F, inside 77°F?
- 21 Hexane cycle, 837 (lb/hr) flowrate, outside is 86°F, inside 75°F?
18. Room A's Floor, made of Earth, dry, if inside is 85°F and outside is 43°F?
- 22 Propyl Alcohol cycle, 1372 (lb/hr) flowrate, outside is 78°F, inside 74°F?
19. Decane cycle, 1119 (lb/hr) flowrate, outside is 77°F, inside 45°F?
- 23 How many mmBTUs are generated by running a GV90+4 for 6 hours?
20. How many pounds of CO<sub>2</sub> are released by burning 342 pounds of Black Ash?
- 24 How many pounds of CO<sub>2</sub> are released by burning diesel fuel for 5 days in a CGi-5?

## Section IV – Green Building

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25. How many pounds of CO<sub>2</sub> are released by burning crude oil (No. 1) for 3 hours in a EG-75?
26. How many mmBTUs are generated by burning 448 pounds of Basswood?
27. Room A's Wall #4, made of Bitumen, if inside is 65°F and outside is 83°F?
28. Glycerine cycle, 1385 (lb/hr) flowrate, outside is 52°F, inside 67°F?
29. Room C's TSA, made of Concrete, stone, if inside is 66°F and outside is 61°F?
30. How many mmBTUs are generated by burning 436 pounds of White Pine?
31. Decane cycle, 960 (lb/hr) flowrate, outside is 64°F, inside 72°F?
32. How many mmBTUs are generated by burning 334 pounds of Ponderosa Pine?