

Answers to The Family Joules.

1 B 2 D 3 B 4 Misprint in question. It takes 14 minutes to boil it, and 6 minutes to melt it. 5. B 6. C 7 D 8. B 9. D 10 D 11 A 12 C 13 D 14 C 15. A

16. B 17. B 17 67800 joules or 67.8 kJ. 18. 20.0 g 19. 2090 joules

20 1.237 liters

I. 585 g Density = mass/volume, so density times volume = mass. 80.0 cm^3 times $7.31 \text{ g/cm}^3 = 585 \text{ g}$.

B. Ni has a larger volume. Since $D = m/V$, the larger the density, the smaller the volume. Lead is denser than nickel, so the same mass of lead must have a smaller volume than that of nickel.

II. $q = mc\Delta t$. $4180 = 50.00(4.18) x$ $x = 20.^\circ \text{ C}$

The final temperature of the water is $20. + 15 = 35^\circ$