Answers

1. strain hardening
2. triclinic
3. 4
4. Material 2 has a higher Poisson’s ratio than Material 1
5. eutectoid
6. copper zinc
7. ceramics
8. 2.598/R
9. Primitive and Base-Centered
10. It is equal to zero
11. It has a very small band gap, we know because its a semi-conductor.
12. Jm^-3
13. Area under the curve
14. Keesom Force
15. 10^13 poise
16. Its strength divided by its density
17. Condenser
18. FCC, tetrahedral
19. Rheopecty
20. Allotropes
21. .35 to .4
22. This is a Vickers hardness test value. 130 is the hardness number, HV indicates it is Vickers hardness, 5 is the load used in kgf, and 5 is the loading time used in seconds.
23. It is not possible because, according to the phase rule, that would result in a negative variance, which is impossible. For a more in-depth explanation, visit here: https://www.chem.queensu.ca/people/faculty/mombourquette/chem221/7_PhaseDiagrams/LiqVap.asp
24. Vulcanization
25. Vacuum bag molding
26. Sintering
27. Pultrusion
28. Quenching
29. Annealing
30. Tempering
31. A: directly B; inversely C:Does not affect D:Direct E: Does not affect
32. zinc carbonate
33. $1s^2 2s^2 2p^6 3s^2 3p^6$
34. tin graphite PVC rubber
35. A. metal B. composite C. polymer D. composite E. ceramic

36. octane
37. C
38. B
39. 139 Å
40. a =2.78 Å, c = 4.54 Å
41. APF = .681359…, BCC
42. 4.346 atoms/nm^2 Calculation: (1.532 grams per mL) * (6.31E-26 liters) * (Avogadro's constant)/(85.47 grams per mole)
43. 4.0438 mm
44. .32
45. 2.627 Å
46. Octahedral, sodium chloride
47. using these values, almost exactly 2.8 g/cm^3. Real value 2.74 g/cm^3. calculation: (4*39.1 g/mol+4*79.9 g/mol)/((2*1.95 Å+2*1.33 Å)^3*6.02E23 mol^-1)
48. 1.27 MPa