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Professor U

OL02

1. B - > 485 KJ
2. True
3. A
4. E -40 degree C
5. C
6. True 🡪 Rms speed is inversely proportional
7. -650 + (-425) = -1075 KJ
8. True
9. E 🡪 -321 degree F
10. True
11. B 🡪 2 NA
12. Work = 150\*0.35 = 52.5J

Efficiency = work done/total heat taken

0.35 = w/150

So, work done = 52.5 J

Heat it exhausts =97.5J

So, heat exhausted = total heat – work done = 150 – 52.5 = 97.5J

1. A 🡪 Temperature
2. D 🡪 455 K
3. B **🡪** 17.3 MPa
4. E 🡪 -109 Degree F
5. D 🡪 absolute zero
6. B 🡪 5.0 J
7. D
8. E 🡪 The answer cannot be determined without the volume information.
9. D 🡪 equals the external pressure.
10. Delta S = mc log [T2/T1]

Here, m = 2000 g

C = 0.031 cal/g K

T1 = 40 degree cel

T2 = 10 degree cel

So, 2000\*0.031 log[1/4]

= -85.9503 J/k

1. True
2. A 🡪 heat energy enters the substance.
3. E 🡪 5.56
4. A 🡪 They are no longer in thermal equilibrium, the iron is warmer.