

**Answer on Question #74517, Physics / Molecular Physics — Thermodynamics**

**Question** A new temperature scale is proposed where water freezes at -1 degree and boils at 9448 degrees. What is absolute zero in this new temp scale?

**Solution** Let us find correspondence of degrees in new scale and Kelvin scale. We know that freezing and boiling in Kelvin is at 273.15 and 373.15. Hence:

$$1[N] = \frac{373.15 - 273.15}{9448 - (-1)} \approx 0.0106 [K]$$

where N denotes degrees in new scale. From this we find that absolute zero is at:

$$(-1) - \frac{273.15}{0.0106} \approx -25810.94 N$$