Answer on Question #43278, Physics, Other

Task:

Two thermometers, one calibrated in F, and the other C, are used to measure the same temperature. The numerical reading on the Fahrenheit thermometer

A. is equal than that on the Celsius thermometer

B. may be any of the above, depending on the temperature

C. is less than that on the Celsius thermometer

D. is greater than that on the Celsius thermometer

E. None of the above

Solution:

A rule of thumb for conversion between degrees Celsius and degrees Fahrenheit is as follows:

$$[^0C] = ([^0F] - 32) \cdot \frac{5}{9}$$

$$[^0F] = [^0C] \cdot \frac{9}{5} + 32$$

The numerical reading on the Fahrenheit thermometer is greater than that on the Celsius thermometer.

Answer: D. is greater than that on the Celsius thermometer