Answer on Question #48429 – Math - Calculus

the relationship between the Fahrenheit and Celsius temperature scales is given by c=(5/9)(F-32). if 60 is greater and equal F and F is greater and equal 80, express the corresponding rang for C in terms of an inequality?

Solution:

$$C = \frac{5}{9}(F - 32) \qquad (1)$$

Formula (1) is relationship between the Fahrenheit and Celsius temperature scales.

$60 \le F \le 80 - initial$ inequality;

To express the corresponding range for C, we need to substitute $F_1 = 60$ and $F_2 = 80$ values of temperature in formula (1):

$$C_1 = \frac{5}{9}(F_1 - 32) = \frac{5}{9}(60 - 32) = \frac{140}{9} \approx 15.6$$

$$C_2 = \frac{5}{9}(F_2 - 32) = \frac{5}{9}(80 - 32) = \frac{80}{3} \approx 26.7$$

Range for C in terms of an inequality:

$$\frac{140}{9} \le C \le \frac{80}{3}$$

Answer: $\frac{140}{9} \le C \le \frac{80}{3}$