

Exercise 216

The function $C = T(F) = (5/9)(F - 32)$ converts degrees Fahrenheit to degrees Celsius.

- Find the inverse function $F = T^{-1}(C)$
 - What is the inverse function used for?
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Solution

Solve the given function for F .

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

Multiply both sides by $(9/5)$.

$$\frac{9}{5}C = F - 32$$

Add 32 to both sides.

$$\frac{9}{5}C + 32 = F$$

Therefore,

$$F = T^{-1}(C) = \frac{9}{5}C + 32.$$

The inverse function is used when you have a temperature in degrees Celsius, and you want to know what it is in degrees Fahrenheit.