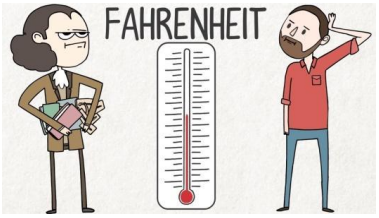
Inverse Functions



The relationship between degrees Celsius and degrees Fahrenheit is given by the formula:

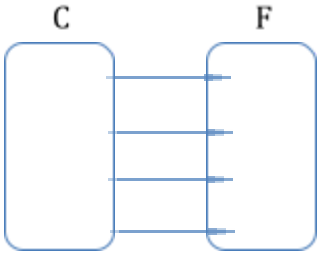
a. Find the temperature in °F when it is 35° C.

b. Find the temperature in °C when it is 77°F.

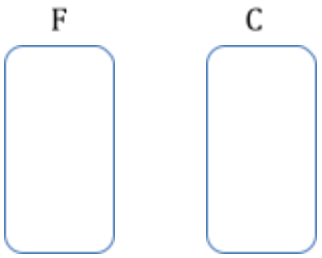
c. Change the subject of the formula by making C the subject of the formula.
* this is the _____ function of F !

d. Use the new form of the formula to find the temperature in °C when it is 77°F. Does your result match your result in b. ?

e. Create a mapping diagram for the C ⍰ F relation.

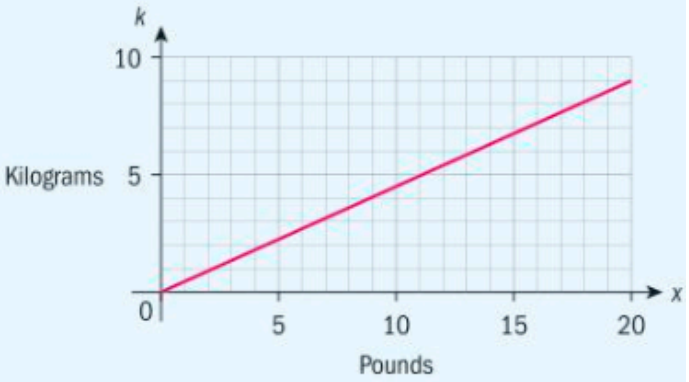


f. Create a mapping diagram for the F ⍰ C relation.



What do you notice?

This is a conversion graph from pounds to kilograms.



a Use the graph to convert 20 pounds into kilograms.

b Find the number of kilograms equivalent to 1 pound.

c Hence, write down the gradient of this line.

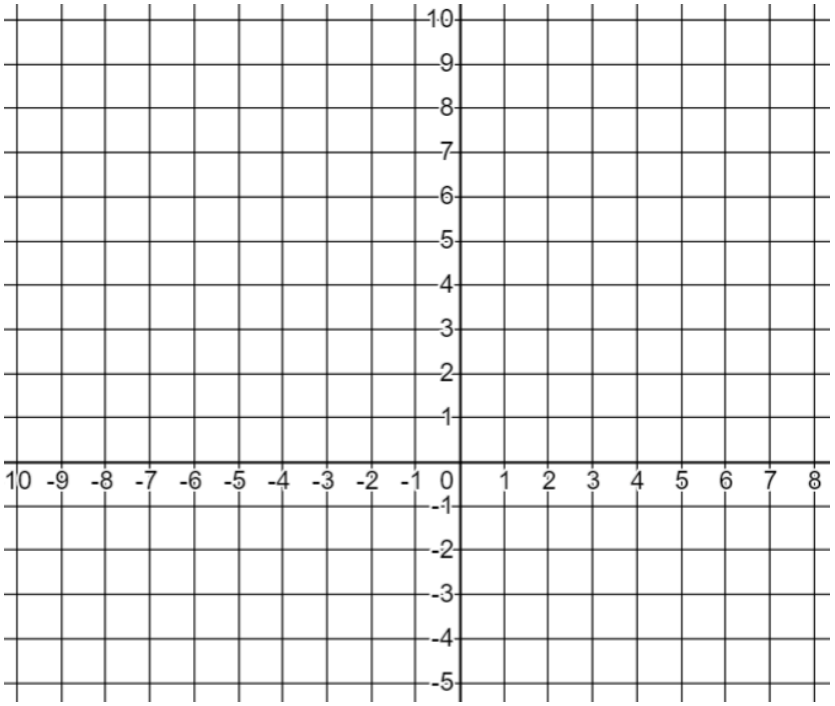
d Find a model for $k(x)$, where $k(x)$ is the number of kilograms and x is the number of pounds.

e Use your model to convert:

i 17 pounds into kilograms **ii** 25 kilograms into pounds.

Given two functions: $f(x) = 2x + 3.5$ and $g(x) = 0.5x + 7$

a) Graph both functions on the set of axes given below.



b) Approximate the point that satisfies both equations (point of intersection) on the graph.

c) Using your GDC (graphing calculator) to graph the two lines. Use the CALC function to find the point of intersection (ask for help if you do not know how to do this).

What is the exact point of intersection? How close was your approximation?

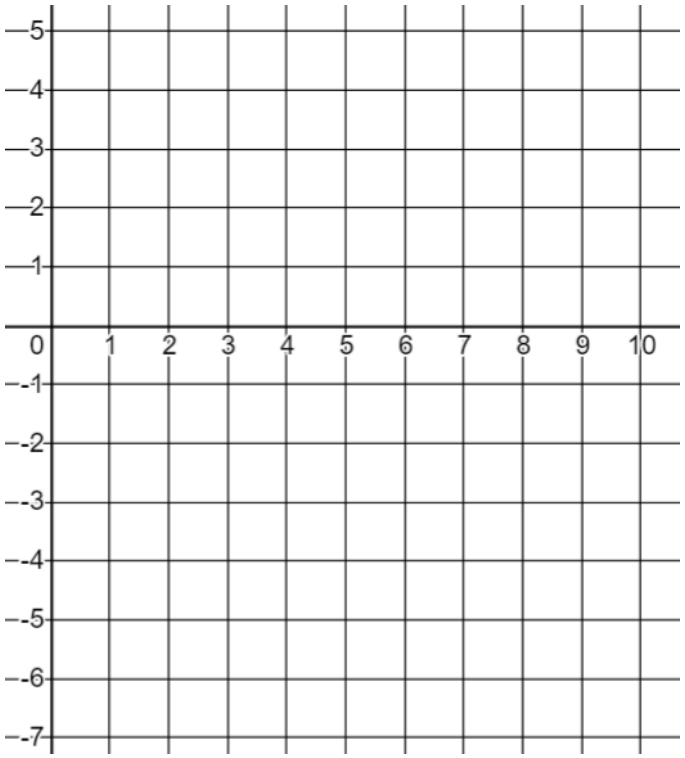
d) Find the point of intersection using only the two equations of the functions.

There are two numbers. Number 1: x and Number 2: y.

a) The first number is equal to six units more than the second number.
Write this relation as a function for y *in terms of* x.

b) The sum of the two numbers is equal to four.
Write this relation as a function for y *in terms of* x.

c) Plot both functions on the same set of axes.



d) Select two points from the line that represents the first function and show that both points satisfy the rule given in a)

e) Select two points from the line that represents the second function and show that both points satisfy the rule given in b)

f) Note the point of intersection. Find this point algebraically. What does it represent?