

Euros Conversion and Inverse Functions

Goals: Finding an inverse function of a linear function and interpreting inputs and outputs.

TASKS

Given at the current time, 1 euro is equivalent to 1.18 U.S. dollars.

1. Write a function f that inputs a number of euros and outputs the number of U. S. dollars.
2. Tell the meaning $f(42)$ in terms of converting euros to U. S. dollars.
3. Solve the question that $f(x) = 49.56$ for x and describe the meaning of your answer.
4. Write a function g that determines the number of euros as a function of U. S. dollars.
5. Compare the values of $f(42)$ and $g(49.56)$.
Then determine $g(f(42))$ and $f(g(49.56))$.
6. Change the function to consider including that you would be charged 1% of your euros amount, before the remaining amount is converted to U. S. dollars.
7. If you are exchanging less than 100 euros, you would be charged 2 euros as a service fee.
Write a function to represent this case for exchanging under 100 euros for U. S. dollars.

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Reference D. Teuscher, K. Palsky, and C. Y. Palfreyman, Inverse Functions: Why switch the variable?, NCTM Mathematics Teacher 2018, March, 374-381.