Challenge #4

Maryam Mirzakhani, a professor at Stanford University filled up the gas tank on her Prius in Venice Beach, California at a price of $3.85/gal. On the same day, Maria Agnesi filled the tank on her Fiat in Venice, Italy at a price of 1.72 Euro/Liter (1.72 €/ℓ).

Assume the exchange rate at the time is $1.30/€

The gas in Venice, Italy is _____ times as expensive as the gas in Venice Beach California.

Challenge #4 Solution

Maryam Mirzakhani, a professor at Stanford University filled up the gas tank on her Prius in Venice Beach, California at a price of $3.85/gal. On the same day, Maria Agnesi filled the tank on her Fiat in Venice, Italy at a price of 1.72 Euro/Liter (1.72 €/L).

Assume the exchange rate at the time is $1.30/€

The gas in Venice, Italy is ~2.2 times as expensive as the gas in Venice Beach California.

Italy:

$$\frac{1.72\,€}{1\,L}\left(\frac{\$1.30}{1\,€}\right)\left(\frac{0.9464\,L}{1\,qt}\right)\left(\frac{4\,qt}{1\,gal}\right)$$

$$\simeq \$8.46/gal$$

America: $3.85/gal

$$\frac{\text{Italy}}{\text{America}}: \quad \frac{\$8.46/gal}{\$3.85/gal} \simeq 2.2$$