

Estimathon 1

Nikita

Problem 1.

What is 3^{3^3} ?

Solution. $7.62... \times 10^{12}$

Problem 2.

What is the farthest from any land one can be in the ocean (in miles)?

Solution. 1680.7

Problem 3.

What is the number of ways to tile the 4×4 square with 1×2 and 2×1 dominoes?

Solution. 36

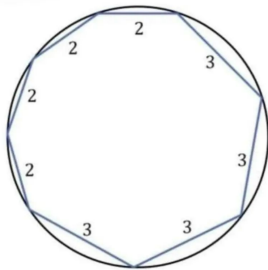
Problem 4.

What is the population of Brazil?

Solution. 215 800 000

Problem 5.

What is the area of the octagon?



Solution. $13 + 12\sqrt{2} = 29.97...$

Problem 6.

What is the mass in kilograms of the International Space Station?

Solution. 419 725

Problem 7.

Cryptarithm: $SKIRT + TSHIRT = CLOTHES$.

Find $SKIRT \times TSHIRT \times CLOTHES$.

Solution. $85239 \times 984239 \times 1069478 = 8.97... \times 10^{16}$

Problem 8.

What is the cost of the most expensive single McDonalds item in the world (in dollars as per 2021)?

Solution. 27.19 □

Problem 9.

What is $\sqrt[100]{2} - 1$?

Solution. $6.95 * 10^{-3}$ □

Problem 10.

What is the number of stations in the entire New York subway system? Transfer stations count as multiple stations.

Solution. 472 □

Problem 11.

What is the number of ways to split the set $\{1, 2, 3, \dots, 10\}$ into sets of equal size?

Solution. 1 073 □

Problem 12.

What is the number of missed free throws in Shaquille O'Neal's NBA career?

Solution. 5 317 □

Problem 13.

What is the median (i.e. the average between the 6-th greatest and the 7-th greatest) of the answers to the first 12 problems.

Solution. $\frac{1073+1680.7}{2} = 1377$ □