

# Consumer Math Investigation

An applied worksheet on unit price, shrinkflation, quantity discounts, and optimization.

## Core rule

Do not compare package prices directly. Compare the price of the same quantity: 100 g, 1 kg, 100 ml, 1 L, or one item.



### The milk puzzle

Milk A contains 930 ml and costs 119 rubles. Milk B contains 1.4 L and costs 176 rubles. First predict which is better value. Then calculate the price per liter for each option and justify your conclusion.

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### Does a bigger box mean a better deal?

One 116 g packet of cookies costs 62.90 rubles. A box of six identical packets costs 377.40 rubles. (a) What would six individual packets cost? (b) How much does the box save? (c) Compare the price per 100 g.

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### Where did 70 milliliters go?

A liter of milk used to cost 120 rubles. A similar-looking package now contains 930 ml and still costs 120 rubles. Calculate the old price per liter, the new price per liter, the increase in rubles, and the percentage increase.

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### Quantity pricing

A drink costs 119 rubles each, 109 rubles each when buying at least three, and 99.90 rubles each when buying at least six. Calculate total cost and savings compared with the base price for purchases of 2, 3, and 6 drinks.

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### Build the cheapest basket

A team needs at least 2.5 L of milk and at least 600 g of cookies. Use the package sizes and prices from Problems 1 and 2. Whole packages only. Find the cheapest valid basket and prove that no cheaper basket works.

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### Stretch challenge: a threshold coupon

Your current basket costs 729.40 rubles. A 10% discount applies only when the pre-discount total is at least 840 rubles. You may add 930 ml milk for 119 rubles, 1.4 L milk for 176 rubles, or 116 g cookies for 62.90 rubles. Find the smallest possible addition that reaches the threshold. Calculate the final payment and decide whether buying the extra item is financially worthwhile.

| Option | Pre-discount total | Threshold reached? | Final payment |
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