

Unit 1

1.2 Unit Price

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Preamble

Objective

10.10: Apply proportional reasoning to solve problems involving unit pricing and currency exchange. [CN, ME, PS, R, T]

- Develop (using proportional reasoning), explain, and apply strategies for comparing the unit price of two or more items
- Relate this knowledge to other spheres

Definitions

Unit Price: What one object costs. For this to be case, our ratio needs to be some number to 1

Unit Rate: the going rate for a single item

Start

Intro

Using proportions is a great method, but often times we need to establish a base amount in order to further work some pieces of information. You may have noticed for the previous lesson that I did just that.

Driving

We started out with a speed we were going (defined by the distance traveled over time)

But we broke it down, simplifying it to simpler components.

If we went further, we might have something like this:

$$\frac{10kilometers}{6minutes}$$

We can use the same method we used last time to simplify this even further

Q: What would divide by to get the unit amount?

$$\frac{\frac{10}{6}}{\frac{6}{6}}$$

Simplified, this translates to

$$\frac{5}{3}$$

or 1.667

Q: How did I just simplify further?

This means that in one minute (one base unit) we travel 1.667 kilometers when we are travelling at 100 kilometers an hour.

Example 1

But lets say I'm not content with this, and I want to find out exactly how far I'm traveling in one second

Q: Any volunteers think they know how to accomplish this?

We will use the same method, by putting our equation in the units we want, and then simplifying. (60 seconds = 1 minute)

What about in meters?

Example 2

Lets say I started working on my project already, and I realized I eat 1 clove of garlic a day. I know that I pay \$1.50 for 3 bulbs of garlic, and there are (counting them) X number in a bulb. How much do I spend in one day?

Assignment

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End activity

In two groups again, this time I want to find out if its cheaper to fly or to drive from here to Vancouver.

You will need to find out the cost of flights, and the cost of gas for a car of your choice