Mathematics 10-3

Unit N: Money and income

Unit price and the better buy

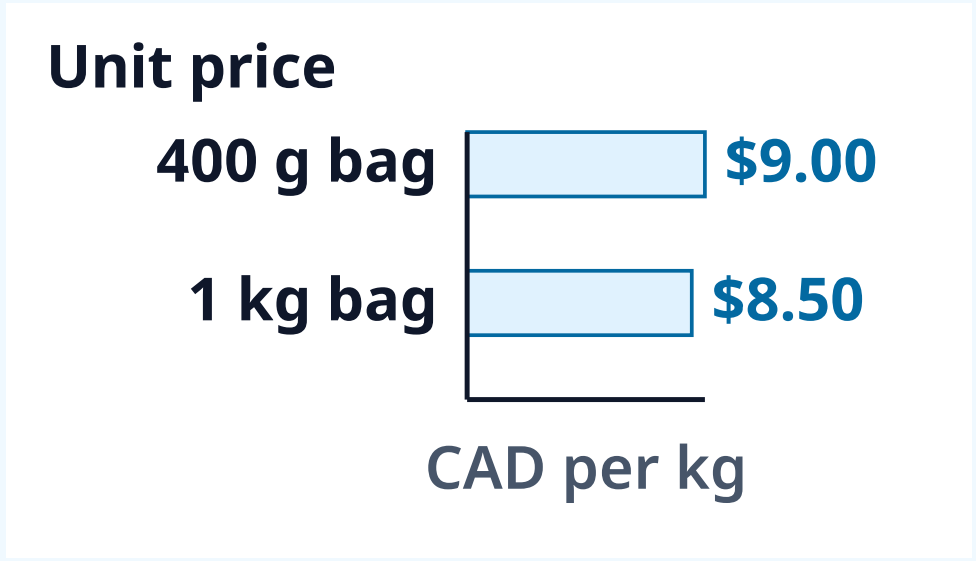
Two rice bags on a grocery shift

- A grocery clerk sets a 400 gram bag of rice at 3.60 dollars beside a 1 kilogram bag at 8.50 dollars.
- The smaller shelf price can look like the bargain until both bags are priced per kilogram.



Unit price and price change

- Unit price divides cost by quantity after both packages use one unit, such as dollars per kilogram or dollars per litre.
- A best buy weighs that unit price together with quality and with how much of the package will be used.
- Percent change uses the original price as the base, and a sales promotion may hide the same unit price inside a smaller printed unit.



Key terms

Unit price

The cost of one shared unit, found by dividing the price by the quantity. (price / quantity)

Best buy

The purchase that fits the unit price and the amount the buyer can actually use.

Percent change

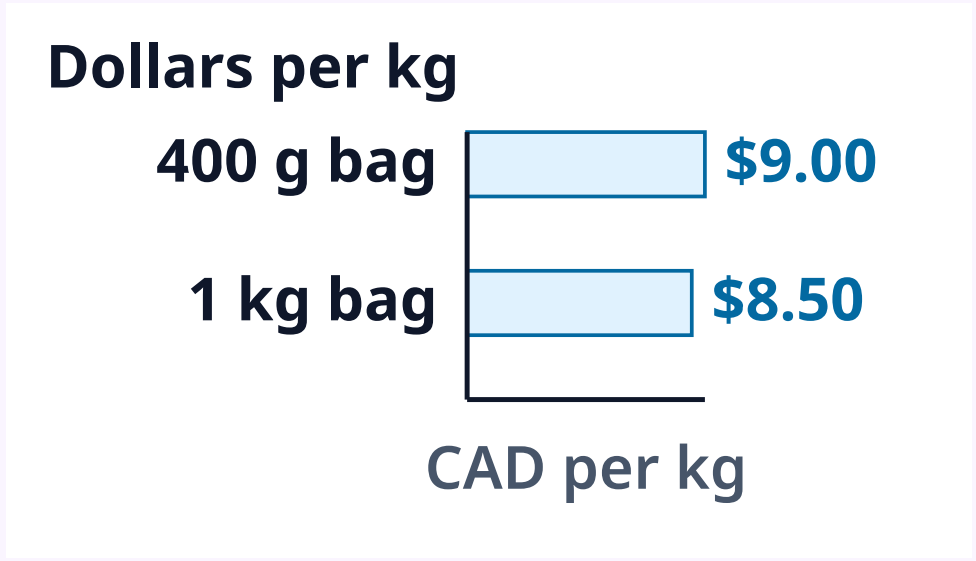
The price gap divided by the original price, then multiplied by 100 to name a percent increase or a percent decrease. ((new - original) / original × 100%)

Sales promotion

A store offer such as a multi-can deal, a percent-off tag, or a price written per 100 grams.

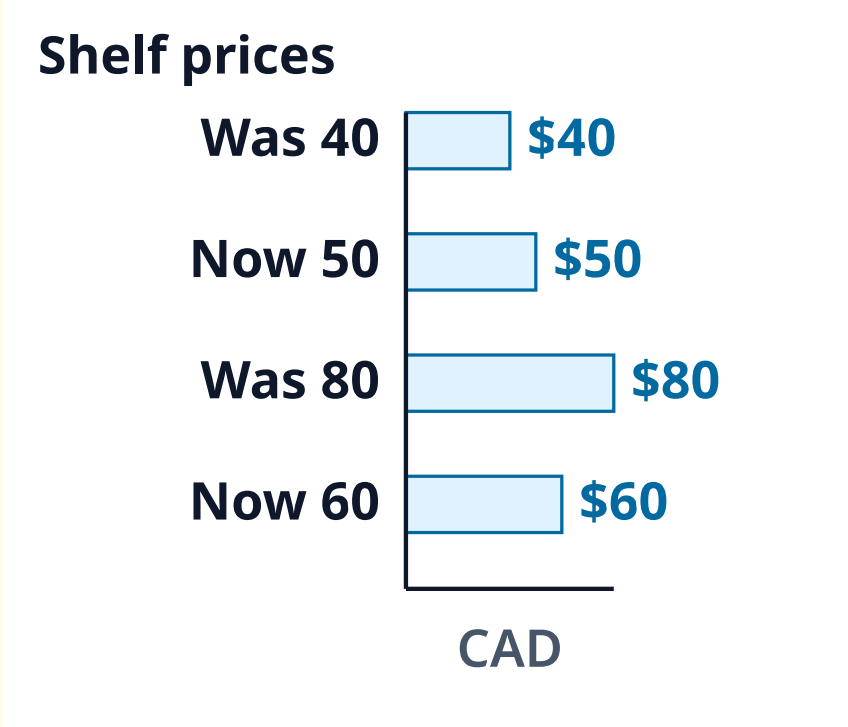
Rice bags in dollars per kilogram

- The 400 gram bag is 400 divided by 1000, which equals 0.4 kilograms, and 3.60 divided by 0.4 equals 9.00.
- The 1 kilogram bag is 8.50 divided by 1, which equals 8.50 dollars per kilogram, so the larger bag has the lower unit price.
- When the household can use only 400 grams before the rest spoils, the 3.60 dollars bag can still be the better buy.



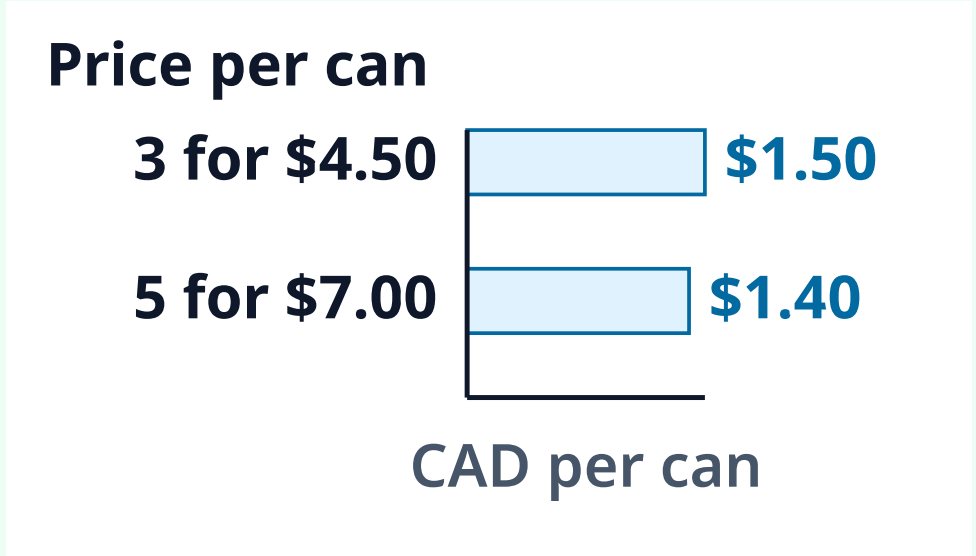
Percent increase and decrease

- Percent change equals the price gap divided by the original price, times 100%.
- From 40 dollars to 50 dollars the gap is 10, and 10 divided by 40 equals 0.25, a 25% increase.
- From 80 dollars to 60 dollars the gap is 20, and 20 divided by 80 equals 0.25, a 25% decrease.



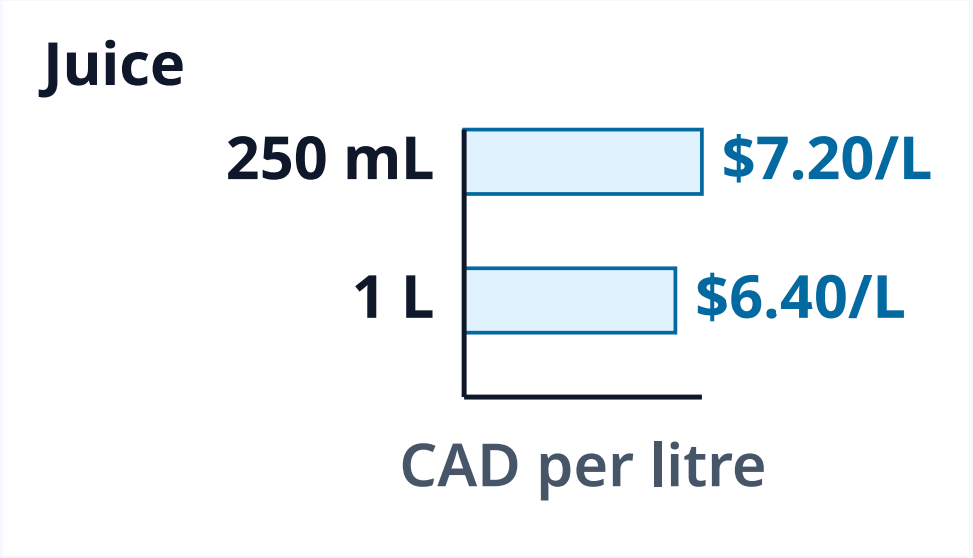
Three cans or five cans

- A sales promotion can sell three cans for 4.50 dollars or five cans for 7.00 dollars.
- Three cans at 4.50 dollars cost 1.50 dollars each, because 4.50 divided by 3 equals 1.50.
- Five cans at 7.00 dollars cost 1.40 dollars each, because 7.00 divided by 5 equals 1.40.



Small-print units and a juice bottle

- Deli meat at 2 dollars per 100 grams is 2 divided by 0.1, which equals 20 dollars per kilogram.
- That matches a tag that already reads 20 dollars per kilogram.
- Juice at 250 millilitres is 0.25 litres.
- Dividing 1.80 by 0.25 equals 7.20 dollars per litre.
- A 1 litre bottle at 6.40 dollars costs 6.40 dollars per litre.
- A brush that moves from 48 dollars to 36 dollars falls by 12, and 12 divided by 48 equals a 25% decrease.



Shelf price check

- Find the unit price of each rice bag and name the bag with the lower unit price.
- State the percent change from 40 dollars to 50 dollars and say whether it is an increase.

