Example 1:

A ruby throated hummingbird and a monarch butterfly travel similar paths across the Gulf of Mexico. The distances is just over 880 km. It takes the hummingbird 18.5 hours and the monarch butterfly 41.6 hours to cross the Gulf. Calculate each speed to the nearest hundredth. 2 decimals

Hummingbird

$\frac{880\ km}{18.5\ hr}$

$= 47.57\ km/hr$

Butterfly

$\frac{880\ km}{41.6\ hrs}$

$= 21.15\ km/hr$

The bird travels at 47.57 km/hr, the butterfly 21.15 km/hr.

Determine each rate:

a) Brandon runs 150 meters in 25 seconds.

$\frac{150m}{25s} = 6\ m/s$

b) Kira earns $88.00 for working 8 hours.

$\frac{\$88.00}{8\ hr} = \$11.00/hr$

c) Cat food costs $9.00 for five cans.

$\frac{\$9.00}{5\ cans} = \$1.80/can$

Unit Price

...a unit price is a unit rate that makes it easier to compare the cost of similar items.

Example:

$9.00 five

$7.50 for 4 cans

* Brett went to the grocery store to buy his favorite brand of orange juice. He found the following container sizes and prices. $0.59 for 250mL, $1.09 for 500mL or $1.99 for 1L. Which container is the best buy?

1L = 1000mL

$\frac{\$0.59}{250mL}$

$= \$0.00236/mL$

$\frac{\$1.09}{500mL}$

$= \$0.00218/mL$

$\frac{\$1.99}{1000mL}$

$= \$0.00199/mL$

The best buy is 1L.

This table show the price of different sized packages of mixed nuts.

Nut Package	Mass	Price
1	300 g	$2.19
2	500 g	$3 09
3	700 g	$4.83

a) What is the unit price per 100 gram for each package?

$\frac{\$2.19}{300g} = \frac{\$0.73}{100g}$ (÷3 / ÷3)

$\frac{\$3.09}{500g} = \frac{\$1.03}{100g}$ (÷3 / ÷3)

$\frac{\$4.83}{700g} = \frac{\$0.69}{100g}$ (÷7 / ÷7)

b) Which package is the best buy? Explain you thinking.

Package 3 is the best buy!