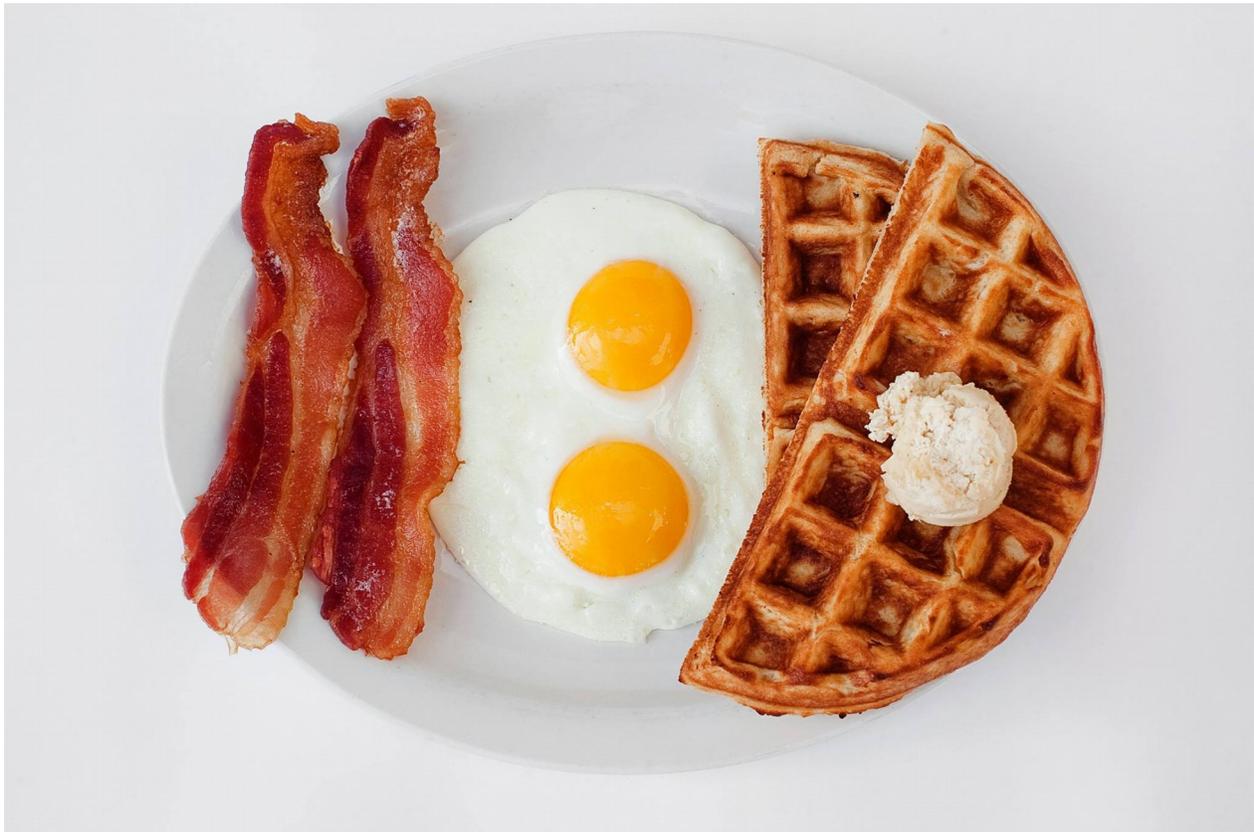


Inquiry Question

How can I determine the best deal for food at the supermarket?

Name: _____ Date: _____



General Instructions

It's Waffle Wednesday, and you know what that means? You get to host the special breakfast morning for you and your friends! The morning is full of friendship, laughter, and of course waffles. To prepare for the morning, you need to make sure you have enough food for everyone to eat, and that you don't spend too much money!

There will be 7 friends coming over. For the 8 of you, **each** of you will need a certain amount of food:

- 3 waffles
- $\frac{1}{4}$ kilograms (kg) of bacon (about 8 pieces of bacon)
- 4 eggs
- 250 milliliters (mL) of orange juice

...it's a lot of food but you're all REALLY hungry.

Using unit rates, you will pick the best deals for food at the supermarket!



Materials you'll need:

- Pen or pencil
- Calculator
- A full stomach so that pictures of food doesn't distract you

Project submission:

Submit the completed pages of this project.

Review

Let's start with a recap of what unit rates are and how to work with them. A **unit rate** is how much of *something* per 1 unit of *something else*.

Example: There are 100 students and 4 teachers. The **unit rate** is 25 students per teacher.

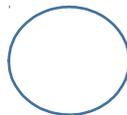
$$\frac{100 \text{ students}}{4 \text{ teachers}} = 25 \frac{\text{students}}{\text{teacher}}$$

Example: 2 liters of soda costs \$2.40. The **unit rate** is \$1.20 per liter.

$$\frac{\$2.40}{2 \text{ liters}} = \frac{\$1.20}{\text{liter}}$$

Example: 6 sodas costs \$8, how much does 1 cost?

$$\frac{\$8.00}{6 \text{ sodas}} = \frac{\$1.33}{1 \text{ soda}} \text{ the unit rate}$$



You will have to use your knowledge of unit rates to get the right amount of food for the cheapest price.

Shopping

Math 8,9 – Units 1, 4, & 8

You head out to get the breakfast food at the local supermarket, and stumble upon the waffles first.

How many waffles do you need in total if there are 8 of you and you need 3 waffles each?

Total Waffles =



You find that there are 2 different waffles you could buy. You want to get the box that has the cheapest price per waffle.



The 8-pack of chocolatey chip waffles costs \$4.25, and the 24-pack of homestyle waffles costs \$12.22. Which box has the **cheapest price per waffle** (or unit price)? How much money do you save getting the cheaper box?

Unit price of the 8-pack: _____ Unit price of the 24-pack: _____

Which box should you buy, and how much money do you save? _____

Now that you have your waffles, it's time to buy the bacon! Looking at your shopping list, you see that you need $\frac{1}{4}$ kg of bacon per person. How many kilograms do you need in total to feed all 8 of you?



Total kilograms of bacon =

note: 1 kg = 1000 g (the 'k' is called a prefix, and stands for 1000),
so $\frac{1}{4}$ kg = $\frac{1}{4} * 1000$ g = $\frac{1000}{4}$ g = 250 g.

As you look through the bacon available, you realize that without math, you would have no idea which pack of bacon is the best deal! You decide then that it's okay if you have more bacon than you need (in other words, you don't need the exact amount), but you want to **buy the bacon that is the cheapest** (which means it has the lowest *unit price*). Write your answer as the \$ per kg (unit price).

○ Example: \$5.00 per 500 grams = $\frac{\$5.00}{500\text{ g}} = \frac{\$5.00}{0.5\text{ kg}} = \frac{\$10.00}{1\text{ kg}}$ ← Unit Price

Find the unit price of each pack of bacon, and how many packs you would need to buy to have enough to feed everyone.



Harvest Bacon

1 kg |
\$16.99

Unit price: _____ Packs needed: _____

Schneiders Naturally Smoked Bacon

375 g |

\$7.99

 Add



Unit price: _____ Packs needed: _____

special

Western Family Bacon

375 g |

\$4.29

 Add



Unit price: _____

Packs needed: _____



Based off your calculations of unit price and how many packs you would need, which bacon pack is the best deal and why? What is the total cost?

Egg-celent! Now that you have your waffles and bacon, it's time to get some eggs.

How many eggs do you need in total?

Total eggs =



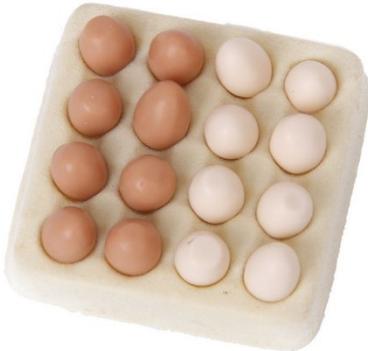
Upon finding the eggs, you see that again there are multiple options! You want **exactly** the right amount of eggs, no more, no less. Which carton of eggs gets you the **best deal per egg** (best unit price)?



\$3.70 - 8 eggs

Unit price: _____

Packs needed: _____



\$7.95 - 16 eggs

Unit price: _____

Packs needed: _____

Optional Challenge: As you look at your options, you see a container of liquid eggs. You know you could calculate the price per egg based off the fact that you know the price per unit volume and the volume per egg, but it would be tricky. You would need to multiply two separate unit rates together to get the unit rate you want. An example of this would look as follows:

- Example: Say you want to know the price per can of a 6-pack soda. You know 2 things:
 1. The total mL per all 6 cans
 2. The total price per total ml

So your calculation could look similar to this:

$$\frac{1500 \text{ mL}}{6 \text{ can}} \cdot \frac{\$ 10}{1500 \text{ mL}} = \frac{250 \text{ mL}}{1 \text{ can}} \cdot \frac{\$ 1}{150 \text{ mL}} = \frac{\$ 1.67}{\text{can}}$$

The challenge: Find the unit price of the liquid eggs (price per single egg).



\$5.00 for 473mL (whole container)
In 473mL there are 11 eggs

Unit price: _____

Which carton of eggs is the best deal and why? (**do not** include the challenge info into here).
What is the total cost?

You're almost done! You have the waffles, bacon, and eggs, and now you just need to get orange juice! How much juice (in mL or L) do you need so that everyone has enough?

note: 1 L = 1000 mL (the 'm' is called a prefix, and stands for 0.001), so 250 mL = 0.250 L = $\frac{1}{4}$ L.

Total juice =



You find that there are 2 options you could get, either a big jug, or small juice boxes.

Find the unit price of both options, and how much it would cost to give everyone enough juice.

SunRype Pure Orange Juice

5 pack 5x200ml Boxes
\$2.49



 **Add**

Unit price: _____

Cost to get enough juice: _____



Minute Maid Orange Juice

1 L | \$2.39/L
\$2.39

 **Add**

Unit price: _____

Cost to get enough juice: _____

Based off your calculations of unit price and how much you would need, which option is the best deal and why?

Payment

You have all your food! Time to pay for all of it.

Your budget is \$60, do you have enough money to pay for your groceries?

- **Total \$ for waffles:**

- **Total \$ for bacon:**

- **Total \$ for eggs:**

- **Total \$ for juice:**

Total price for groceries = _____

Do you have enough money? _____

