**Lower Elementary:**

*Question:* Natalie prepares 16 equal-sized florets of broccoli for family dinner night. Each of the 4 people in Natalie’s family eat the same amount of broccoli, and there are 4 florets left over. How many florets does each family member eat?

**Upper Elementary:**

*Question:* William used to drink 6 cans of soda per day, but he decided to replace his soda with bottled water. If a can of soda costs $0.85 and a bottle of water costs $0.75, then how much money does William save each week by swapping from soda to water?

**Middle School:**

*Question:* A 12-ounce steak has 92 grams of protein. A 6-ounce serving of chicken has 52 grams of protein. A 9-ounce serving of salmon has 63 grams of protein. If Mason wants to cook the option with the most protein per ounce, then which should he choose?

**Algebra and Up:**

*Question:* A 250-millilitre green smoothie with 1 scoop of super vitamin powder costs $4.85. A 250-millilitre green smoothie with 3 scoops of super vitamin powder costs $5.55. Write a function of ***x***, the number of scoops of super vitamin powder, that yields the cost of a green smoothie.

**Lower Elementary:**

*Question:* Natalie prepares 16 equal-sized florets of broccoli for family dinner night. Each of the 4 people in Natalie’s family eat the same amount of broccoli, and there are 4 florets left over. How many florets does each family member eat?

*Answer:* 3 florets

*Solution:* First, we subtract the leftover broccoli; 16 florets – 4 florets = 12 florets are eaten by Natalie’s family. Since each family member eats the same amount, we divide 12 florets into 4 equal groups and get 3 florets in each. So, each family member eats 3 florets of broccoli.

**Upper Elementary:**

*Question:* William used to drink 6 cans of soda per day, but he decided to replace his soda with bottled water. If a can of soda costs $0.85 and a bottle of water costs $0.75, then how much money does William save each week by swapping from soda to water?

*Answer:* $4.20

*Solution:* Each soda costs $0.10 more than a bottle of water. So, each day, William saves $0.10 × 6 = $0.60. In a week, he saves $0.60 × 7 = $4.20.

**Middle School:**

*Question:* A 12-ounce steak has 92 grams of protein. A 6-ounce serving of chicken has 52 grams of protein. A 9-ounce serving of salmon has 63 grams of protein. If Mason wants to cook the option with the most protein per ounce, then which should he choose?

*Answer:* Chicken

*Solution:* If we divide the grams of protein in each option by the weight of the serving of meat, then we can compare the amounts of protein per ounce. There are 92 ÷ 12 = 72/3 grams of protein per ounce in the steak, 52 ÷ 6 = 82/3 grams of protein per ounce in the chicken, and 63 ÷ 9 = 7 grams of protein per ounce in the salmon. So, the chicken has the most protein per ounce.

**Algebra and Up:**

*Question:* A 250-millilitre green smoothie with 1 scoop of super vitamin powder costs $4.85. A 250-millilitre green smoothie with 3 scoops of super vitamin powder costs $5.55. Write a function of ***x***, the number of scoops of super vitamin powder, that yields the cost of a green smoothie.

*Answer:*  *f*(***x***) = $0.35***x*** + $4.50

*Solution:* First, we notice that when the number of scoops of super vitamin powder increases by 2, the price increases by $5.55 – $4.85 = $0.70. So, each scoop of super vitamin powder costs $0.35. To find the cost of a 250-millilitre smoothie without the super vitamin powder, we can subtract $4.85 – $0.35 = $4.50. So, the cost of a green smoothie is $4.50 plus the total of $0.35 times the number of scoops:

*f*(***x***) = $0.35***x*** + $4.50