**Lower Elementary:**

*Question:* Anthony is baking cookies for his friends. He bakes 2 dozen cookies, but 5 of them crumble into pieces. If Anthony needs 18 cookies for his friends, then how many cookies does he have left over for himself?

**Upper Elementary:**

*Question:* Betsy buys 6 cookies from the store. The cookies have 5, 9, 10, 6, 7, and 11 chocolate chips in them respectively. What is the average number of chocolate chips per cookie?

(Hint: The average is the sum of all the values in a set, divided by the number of values in the set.)

**Middle School:**

*Question:* Chris needs to preheat his oven to 345°F to bake a batch of chocolate chip cookies. The internal temperature of oven is 70°F when it’s turned off. If it heats at an average rate of 22°F per minute from the moment Chris turns it on to the moment it reaches 345°F, then exactly how long will it take for the oven to reach the correct temperature?

**Algebra and Up:**

*Question:* Daria owns a small bakery whose projected total profit can be modeled with the function *f*(***x***) = 4,750***x*** + 10,800. If ***x*** is a number of months measured from now and the output is a number of dollars, find the projected total profit for 2 years from now.

**Lower Elementary:**

*Question:* Anthony is baking cookies for his friends. He bakes 2 dozen cookies, but 5 of them crumble into pieces. If Anthony needs 18 cookies for his friends, then how many cookies does he have left over for himself?

*Answer:* 1 cookie

*Solution:* Since a dozen is 12, Anthony bakes 12 + 12 = 24 cookies. He has 24 – 5 = 19 to give to his friends after 5 of them crumble. Since he needs 18 cookies for his friends, he has 19 – 18 = 1 cookie leftover for himself.

**Upper Elementary:**

*Question:* Betsy buys 6 cookies from the store. The cookies have 5, 9, 10, 6, 7, and 11 chocolate chips in them respectively. What is the average number of chocolate chips per cookie?

(Hint: The average is the sum of all the values in a set, divided by the number of values in the set.)

*Answer:* 8 chocolate chips

*Solution:* To find an average, we add up all the values in a set and then divide by the number of values. So, since there are 5 + 9 + 10 + 6 + 7 + 11 = 48 chocolate chips among 6 cookies, that means that the average is 48 ÷ 6 = 8 chocolate chips per cookie.

**Middle School:**

*Question:* Chris needs to preheat his oven to 345°F to bake a batch of chocolate chip cookies. The internal temperature of oven is 70°F when it’s turned off. If it heats at an average rate of 22°F per minute from the moment Chris turns it on to the moment it reaches 345°F, then exactly how long will it take for the oven to reach the correct temperature?

*Answer:* 12 minutes and 30 seconds

*Solution:* Since Chris needs the oven to heat up by 345°F – 70°F = 275°F. The average increase in temperature per minute is 22°F, so if we divide the amount the oven needs to heat up by the average increase in temperature per minute, we find that it takes 275°F ÷ 22°F per minute = 12 minutes and 30 seconds for the oven to preheat.

**Algebra and Up:**

*Question:* Daria owns a small bakery whose projected total profit can be modeled with the function *f*(***x***) = 4,750***x*** + 10,800. If ***x*** is a number of months measured from now and the output is a number of dollars, find the projected total profit for 2 years from now.

*Answer:* $124,800

*Solution:* There are 24 months in 2 years, so we find the output value of *f*(***x***) when ***x*** is 24. So, since *f*(24) = 4,750(24) + 10,800 = 124,800, the bakery is projected to earn a total profit of $124,800 in the next 2 years.