**Lower Elementary:**

*Question:* Laura has a heart-shaped necklace charm that breaks into two pieces. If the whole charm weighs 51/2 grams and one of the pieces weighs 21/2 grams, then how much does the other piece weigh?

**Upper Elementary:**

*Question:* Benjamin and Jerry shared a brie and butter baguette for dinner. Benjamin ate 3/10 of the baguette, and Jerry ate 2/5 of it. The uneaten part of the baguette weighs 41/2 ounces. How many ounces of the baguette did Jerry eat?

**Middle School:**

*Question:* Dale orders a cup of coffee that costs $1.50 and a slice of cherry pie that costs $2.50 at the Double R Diner. If the sales tax is 6.5% and Dale tips $1.00, then how much money does he spend at the diner in total?

**Algebra and Up:**

*Question:* A large circular saw at the Packard Sawmill has a radius of 3 feet. The edge of the saw’s blade strikes the milled trees at a rate of 9,000 feet per minute. What is the rate at which the saw rotates in radians per minute?

**Lower Elementary:**

*Question:* Laura has a heart-shaped necklace charm that breaks into two pieces. If the whole charm weighs 51/2 grams and one of the pieces weighs 21/2 grams, then how much does the other piece weigh?

*Answer:* 3 grams

*Solution:* To find the weight of the missing part of the charm, we subtract 21/2 grams from 51/2 grams. We can do this by splitting 21/2 grams into 2 grams and 1/2 of a gram. If we subtract 2 grams first, we get 51/2 – 2 = 31/2 grams. Next, we subtract the half to get 31/2 – 1/2 = 3 grams. So, the missing part of the charm weighs 3 grams.

**Upper Elementary:**

*Question:* Benjamin and Jerry shared a brie and butter baguette for dinner. Benjamin ate 3/10 of the baguette, and Jerry ate 2/5 of it. The uneaten part of the baguette weighs 41/2 ounces. How many ounces of the baguette did Jerry eat?

*Answer:* 6 ounces

*Solution:* First, we need to know what fractional part of the sandwich is uneaten. Since Benjamin ate 3/10 and Jerry ate 2/5 = 4/10, they ate 7/10 of the baguette in total. That means that the remaining 3/10 of the baguette weighs 41/2 ounces. Each tenth of the baguette therefore weighs 41/2 ÷ 3 = 11/2 ounces. So, since Jerry ate 4/10 of the baguette, his piece was 11/2 × 4 = 6 ounces.

**Middle School:**

*Question:* Dale orders a cup of coffee that costs $1.50 and a slice of cherry pie that costs $2.50 at the Double R Diner. If the sales tax is 6.5% and Dale tips $1.00, then how much money does he spend at the diner in total?

*Answer:* $5.26

*Solution:* The cost before tax of the pie and coffee is $1.50 + $2.50 = $4.00, so the cost after tax is $4.00 + ($4.00 × 0.065) = $4.26. With the tip included, Dale spends $4.26 + $1.00 = $5.26.

**Algebra and Up:**

*Question:* A large circular saw at the Packard Sawmill has a radius of 3 feet. The edge of the saw’s blade strikes the milled trees at a rate of 9,000 feet per minute. What is the rate at which the saw rotates in radians per minute?

*Answer:* 3,000 radians per minute

*Solution:* Since a radian has an arc length equal to the radius, each radian that the saw rotates causes 3 feet of the edge of the blade to strike the tree. So, to find the number of radians that would cause 9,000 feet of the edge of the blade to strike the tree, we divide 9,000 ÷ 3 = 3,000. The rate at which the blade rotates is 3,000 radians per minute.