**Lower Elementary:**

*Question:* A small box contains 1 dozen cookies. A large box contains 2 dozen cookies. How many cookies are in 3 small boxes and 2 large boxes?

**Upper Elementary:**

*Question:* There are 3 oranges per pound on average. Each pound of oranges produces 6 fluid ounces of orange juice. If Emma picks 144 from an orange tree, how many cups of orange juice can she squeeze from them?

**Middle School:**

*Question:* Violins are measured in “fractional” sizes, which are not literal measurements of their proportions. The body of a full size violin is 14 inches long. The body of a half size violin is 121/2 inches long. By what fractional part would the body of the half size violin need to decrease in length in order to be literally half the length of a full size violin?

**Algebra and Up:**

*Question:* Rachel starts her math test at 2:05 pm. She finishes the test at 2:47 pm. How many degrees does the minute hand of the clock on the wall in Rachel’s math classroom rotate as Rachel is taking her test?

**Lower Elementary:**

*Question:* A small box contains 1 dozen cookies. A large box contains 2 dozen cookies. How many cookies are in 3 small boxes and 2 large boxes?

*Answer:* 84 cookies

*Solution:* In 3 small boxes, there are 12 + 12 + 12 = 36 cookies. In 2 large boxes, there are 24 + 24 = 48 cookies. So, in all the boxes, there are 36 + 48 = 84 cookies.

**Upper Elementary:**

*Question:* There are 3 oranges per pound on average. Each pound of oranges produces 6 fluid ounces of orange juice. If Emma picks 144 from an orange tree, how many cups of orange juice can she squeeze from them?

*Answer:* 36 cups

*Solution:* Since there are 3 oranges in a pound, 144 oranges weigh 144 ÷ 3 = 48 pounds. Each pound of oranges makes 6 fluid ounces—or 3/4 of a cup—of orange juice. So, 48 pounds of oranges makes 48 × 3/4 = 36 cups of orange juice.

**Middle School:**

*Question:* Violins are measured in “fractional” sizes, which are not literal measurements of their proportions. The body of a full size violin is 14 inches long. The body of a half size violin is 121/2 inches long. By what fractional part would the body of the half size violin need to decrease in length in order to be literally half the length of a full size violin?

*Answer:* 11/25

*Solution:* Half the length of the body of a full size violin is 7 inches. In order to decrease 121/2 inches to 7 inches, the half size violin would need to lose 51/2 inches. Since 51/2 is 11/25 of 12, the half size violin would need to decrease in length by 11/25 in order to be literally half size.

**Algebra and Up:**

*Question:* Rachel starts her math test at 2:05 pm. She finishes the test at 2:47 pm. How many degrees does the minute hand of the clock on the wall in Rachel’s math classroom rotate as Rachel is taking her test?

*Answer:* 252 degrees

*Solution:* Rachel spends 42 minutes on her math test. Since there are 360 degrees in a circle and 60 minutes on a clock, that each minute is 360 ÷ 60 = 6 degrees. So, in 42 minutes, the minute hand rotates 42 × 6 = 252 degrees.