**Lower Elementary:**

*Question:* The time in London, England, is 8 hours ahead of the time in San Francisco, California. When the New Year begins in London, what time will it be in San Francisco?

**Upper Elementary:**

*Question:* Kevin is planning a barbeque celebration for New Year’s Day. Kevin has one pack of 21 hot dogs and another that has 27 hot dogs. He plans to cook all of them, so he needs to buy hot dog buns. Each pack of hot dog buns contains 8 buns. How many packs of hot dog buns does Kevin need to buy?

**Middle School:**

*Question:* Georgina is making a banner to decorate the house for a New Year’s party. The banner is a rectangle with a perimeter of 16 feet and a width of 2 feet. What is the length of the banner?

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**Algebra and Up:**

*Question:* For a New Year’s resolution, Victoria is going to deposit money in her bank account. The first week, she will deposit $1. The second week, she will deposit $2. The third week, she will deposit $3. She will continue this pattern for all 52 weeks of the year. How much money will Victoria deposit in her bank account at the end of the year?

**Lower Elementary:**

*Question:* The time in London, England, is 8 hours ahead of the time in San Francisco, California. When the New Year begins in London, what time will it be in San Francisco?

*Answer:* 4PM

*Solution:* When the New Year begins, it will be 12AM. Since San Francisco is 8 hours behind London, 8 hours before 12AM is 4PM. So, it is 4PM in San Francisco when the New Year begins in London.

**Upper Elementary:**

*Question:* Kevin is planning a barbeque celebration for New Year’s Day. Kevin has one pack of 21 hot dogs and another that has 27 hot dogs. He plans to cook all of them, so he needs to buy hot dog buns. Each pack of hot dog buns contains 8 buns. How many packs of hot dog buns does Kevin need to buy?

*Answer:* 6 packs

*Solution:* Kevin has a total of 21 + 27 = 48 hot dogs that he is going to cook. Since each pack contains 8 buns, Kevin needs to buy 48 ÷ 8 = 6 packs of hot dog buns.

**Middle School:**

*Question:* Georgina is making a banner to decorate the house for a New Year’s party. The banner is a rectangle with a perimeter of 16 feet and a width of 2 feet. What is the length of the banner?

*Answer:* 6 feet

*Solution:* We first need to find the length of the banner. The entire perimeter is 16 feet and the width is 2 feet. The formula for the perimeter of a rectangle is P = 2L + 2W, so substituting our values for the perimeter and width, we have:

16 = 2L + 2(2)

Simplify.

16 = 2L + 4

Subtract 4 from both sides.

12 = 2L

Divide both sides by 2.

6 = L

The length of the banner is 6 feet.

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**Algebra and Up:**

*Question:* For a New Year’s resolution, Victoria is going to deposit money in her bank account. The first week, she will deposit $1. The second week, she will deposit $2. The third week, she will deposit $3. She will continue this pattern for all 52 weeks of the year. How much money will Victoria deposit in her bank account at the end of the year?

*Answer:* $1,378

*Solution:* One way to add the digits is to make groups of 50. If we notice that 1 + 49 = 50, 2 + 48 = 50, 3 + 47 = 50, etc. then we will have 25 groups of 50. The remaining three numbers that do not combine to make 50 is 25, 51, and 52. So, the total amount in the bank account is 25 × 50 + 25 + 51 + 52 = 1,250 + 25 + 51 + 52 = $1,378. So Victoria will deposit $1,378 at the end of the year.

Alternatively, we can use the formula n(n+1)/2 to find the sum of every consecutive number from 1 to n. Since n is 52, the formula becomes 52(52 + 1)/2 = 52(53)/2 = 2,756/2 = $1,378.