In the US how many square feet of pizza are eaten each month?

- Let’s consider the population of US 300 million.
- Let's say 200 million people eat pizza.
    - Discuss segregation of
        - Age-bracket (below 13 yrs and above 60 won’t consume usually)
        - Availability in the region

- Considering the **average** pizza-eating person eats two slices at a time and eats pizza twice a month.
- That means one person eats four slices a month. If the average size of the pizza slice is 30 inches.
- So 4 pizza slices = 120 square inches.

To summarize:

- Population 300 million people
- People eat pizza 200 million
- Pizza size= 30 sq. inches
- Average people eat four slices of pizza a month
- 4 pieces x 30 square inches = 120 square inches considering 1 square foot per person.
- So 200x1 = 200 million square feet a month

Measuring 6L water from 4L and 9L buckets

Question: Suppose you have a 4 liter jug and a 9 liter bucket . The buckets have no measurement lines on them either. How could you measure exactly 6 liters using only those buckets and you have as much extra water as you need?

1. Consider 2 buckets, one 4L and other 9L. : Bucket 1 (4L) and Bucket2 (9L)
2. First fill the 9L bucket fully. : 0 L and 9 L
3. **Pour the water into the 4L bucket. : 4 L and 5 L (answer to measuring 5L)**
4. Empty the 4L bucket. : 0 L and 5 L
5. **Fill the 4L bucket from the 9L bucket. : 4 L and 1 L (answer to measuring 1L)**
6. Now you will left with 1L water in the 9L bucket : 0 L and 1 L
7. Now pour this 1L into the 4L bucket : 1 L and 0 L
8. Refill the 9L bucket. : 1 L and 9 L
9. Now pour the water from 9L into the 4L bucket until it fills up. : 4 L and 6 L
10. Now you are left with 6 L water in the 9L bucket.

Alok has three daughters. His friend Shyam wants to know the ages of his daughters.

Alok gives him a first hint.

1. The product of their age is 72.

Shyam says this is not enough information Alok gives him a second hint.

2. The sum of their ages is equal to my house number.

Shyam goes out and looks at the house number and tells “I still do not have enough information to determine the ages”.

Alok admits that Shyam can not guess and gives him the third hint

3. The oldest girl likes strawberry ice cream.

Shyam is able to guess after the third hint. Can you guess what the ages of the three daughters are?

1. Product of ages is 72

Below are all possibilities to get 72 from product of three different ages:

1 * 1 * 72 = 72

1 * 2 * 36 = 72

1 * 3 * 24 = 72

1 * 4 * 18 = 72

1 * 6 * 12 = 72

1 * 8 * 9 = 72

2 * 2 * 18 = 72

2 * 3 * 12 = 72

2 * 4 * 9 = 72

2 * 6 * 6 = 72

3 * 3 * 8 = 72

3 * 4 * 6 = 72

2. Sum of the ages is given

1 + 1 + 72 = 74

1 + 2 + 36 = 39

1 + 3 + 24 = 28

1 + 4 + 18 = 23

1 + 6 + 12 = 19

1 + 8 + 9 = 18

2 + 2 + 18 = 22

2 + 3 + 12 = 17

2 + 4 + 9 = 15

2 + 6 + 6 = 14

3 + 3 + 8 = 14

3 + 4 + 6 = 13

All sums are unique except 14. So the age sum must have been 14, otherwise, Shyam would have guessed the ages from hint 2 only.

So we have two possible combinations to get a sum of 14

2 + 6 + 6 = 14

3 + 3 + 8 = 14

3. Alok has the oldest girl (not two). So the ages must be 3, 3 and 8.
(as oldest means that there is a unique largest number among all 3)

Part-2: If in the above question, the given hint is:

The *youngest girl* likes strawberry ice cream.

Then the answer is 2 , 6 and 6 (as youngest means that there is a unique smallest number among all 3)