**Lower Elementary:**

*Question:* The world record for the greatest number of hula hoops spun at the same time is held by Marawa Ibrahim from Australia. She can spin 200 hula hoops at once. If Aria can spin 150 hula hoops right now, how many more does she need to spin to break the world record?

**Upper Elementary:**

*Question:* The record for the largest pizza was broken when a restaurant called NIPfood made a pizza that was 1260 square metres in area. If that pizza were cut in half, then each piece were cut in half, then each piece were cut in half again, over and over, until the pieces had been halved 10 times, how many pieces would there be?

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**Middle School:**

*Question:* There are 2700 residents of Casey, Illinois, home of the world’s largest mailbox. The mailbox is so big that a group of people can stand inside it. If there are 135 people standing inside the mailbox, what percentage of the population of Casey is in the mailbox?

**Algebra and Up:**

*Question:* Sweet Pea the dog holds the world record for the fastest 100 metres walked with a can balanced on her head. (Seriously.) She traveled the 100 metres in 2 minutes and 55 seconds. What was Sweet Pea’s average speed measured in metres per second?

**Lower Elementary:**

*Question:* The world record for the greatest number of hula hoops spun at the same time is held by Marawa Ibrahim from Australia. She can spin 200 hula hoops at once. If Aria can spin 150 hula hoops right now, how many more does she need to spin to break the world record?

*Answer:* 51 hula hoops

*Solution:* To get from 150 to 200 hula hoops, Aria would need 50 more. But that would only tie her with Marawa, so to break the record, Aria would need one more. 50 + 1 = 51 hula hoops.

**Upper Elementary:**

*Question:* The record for the largest pizza was broken when a restaurant called NIPfood made a pizza that was 1260 square metres in area. If that pizza were cut in half, then each piece were cut in half, then each piece were cut in half again, over and over, until the pieces had been halved 10 times, how many pieces would there be?

*Answer:* 1024 pieces

*Solution:* Each time we halve the pieces, we’re doubling the number of pieces in total. So, after the pizza is cut in half once, there are 2 pieces, then 4, 8, 16, 32, 64, 128, 256, 512, and finally 1024 pieces.

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**Middle School:**

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*Answer:* 5%

*Solution:* One way to solve this problem is to reason that a percentage is out of 100, and there are 27 hundreds in 2700. So, to find the percentage, we want to know what number goes into 135, 27 times: 135 ÷ 27 = 5. So, there are 5 residents for each hundred, meaning there are 5% of the residents in the mailbox.

**Algebra and Up:**

*Question:* Sweet Pea the dog holds the world record for the fastest 100 metres walked with a can balanced on her head. (Seriously.) She traveled the 100 metres in 2 minutes and 55 seconds. What was Sweet Pea’s average speed measured in metres per second?

*Answer:* 4/7 metres per second

*Solution:* First, we need to know how many seconds are in 2 minutes and 55 seconds. Two minutes is the same as 120 seconds, and 55 more makes 175 seconds in total. A hundred metres over 175 seconds is the same as is the same as 100 ÷ 175 = 4/7 metres per second.