**Lower Elementary:**

*Question:* Eleanor is at a party where they are serving shrimp. She eats 5 shrimp at the beginning of the party. At the end of the party, she eats 7 more shrimp. She also takes a number of shrimp home with her. If Eleanor takes a total of 20 shrimp at the party, then how many does she take home?

**Upper Elementary:**

*Question:* Michael is reading a book that is 3600 pages long. It’s a very long book, but Michael can read very quickly. If Michael reads 240 pages per day, then how long will it take him to finish the book?

**Middle School:**

*Question:* Chidi is a philosophy professor who teaches on Mondays, Wednesdays, and Fridays. Did Chidi teach on September 19, 2016? Find a way to solve this problem without looking up the date. You may look up how many days are in each month.

**Algebra and Up:**

*Question:* Good Janet is on a train travelling 80 kilometres per hour. Bad Janet is on another train travelling 120 kilometres per hour along the same route in the opposite direction. If Good Janet and Bad Janet are 240 kilometres apart and travelling toward each other, then how far will Good Janet have travelled when their trains pass each other?

**Lower Elementary:**

*Question:* Eleanor is at a party where they are serving shrimp. She eats 5 shrimp at the beginning of the party. At the end of the party, she eats 7 more shrimp. She also takes a number of shrimp home with her. If Eleanor takes a total of 20 shrimp at the party, then how many does she take home?

*Answer:* 8 shrimp

*Solution:* Eleanor eats 5 + 7 = 12 shrimp at the party. Since she takes a total of 20 shrimp, we can find out how many she takes home by subtracting the shrimp she eats. Eleanor takes 20 – 12 = 8 shrimp home.

**Upper Elementary:**

*Question:* Michael is reading a book that is 3600 pages long. It’s a very long book, but Michael can read very quickly. If Michael reads 240 pages per day, then how long will it take him to finish the book?

*Answer:* 15 days

*Solution:* To solve this problem, we find out how many times 240 pages go into 3600 pages. Since 3600 ÷ 240 = 15, it takes Michael 15 days to read the book.

**Middle School:**

*Question:* Chidi is a philosophy professor who teaches on Mondays, Wednesdays, and Fridays. Did Chidi teach on September 19, 2016? Find a way to solve this problem without looking up the date. You may look up how many days are in each month.

*Answer:* Yes

*Solution:* To solve this problem, we first need to know how many days have passed since September 19, 2016. On October 8, 2018, the answer is 749 days. Since 749 is a multiple of 7 and there are 7 days in a week, it was also a Monday on September 19, 2016. That means that Chidi did teach on that date.

**Algebra and Up:**

*Question:* Good Janet is on a train travelling 80 kilometres per hour. Bad Janet is on another train travelling 120 kilometres per hour along the same route in the opposite direction. If Good Janet and Bad Janet are 240 kilometres apart and travelling toward each other, then how far will Good Janet have travelled when their trains pass each other?

*Answer:* 96 kilometres

*Solution:* Good Janet and Bad Janet get 80 + 120 = 200 kilometres closer to each other each hour. So, since 240 kilometres ÷ 200 kilometres per hour = 6/5 of an hour, it will take them 6/5 of an hour (or 1 hour and 12 minutes) to pass each other. In 6/5 of an hour, Good Janet travels 6/5 × 80 = 96 kilometres.