



## HOW LONG IS LONGEVITY? A Math Exercise Fit for an Emperor

“...the emperor finally received his peach. And while the emperor ate it with much delight, even he must have wondered how much sweeter the peach would have been if he had gotten the first bite.” —WHEN THE SEA TURNED TO SILVER

Do you recall **The Story of the Stolen Bite of Peach** (pages 154-157)? In the tale, the magistrate steals a bite from Emperor Zu’s peach of longevity. Folktales do not usually lead to math, but if you explore the years inherent in this story, you may solve some mysteries about the magistrate.

- 1) If a peach offered nine hundred and ninety-nine additional years of life and could be eaten in six bites, how many years could the Emperor live with only five bites?
- 2) The Emperor almost executes the forty-four-year-old magistrate for taking a bite of the peach of longevity. If all the magistrate has left to live are the years the peach gives him, how old could he live to be?
- 3) The magistrate is now the new Emperor. When Pinmei meets the Emperor, he is two hundred and four years old! How many years does he have left from eating the peach? Is this why he seeks immortality with such force? Explain.
- 4) The Paper of Answers says that the Emperor (formerly known as the magistrate, the Tiger Magistrate, and the Green Tiger) will be immortal. How will he be immortal? Explain.

### Mathematics in Ancient China

There is evidence that mathematics was taught in Chinese schools with a textbook called the Nine Chapters of the Mathematical Art during the Han Dynasty (206 BC – 220 AD). Were students like you counting the bites of a peach 1800 years ago?

Source: Wikipedia: “Nine Chapters of the Mathematical Art”  
1) 832.5 2) 210.5 3) 6.5 4) Stories