Written Test
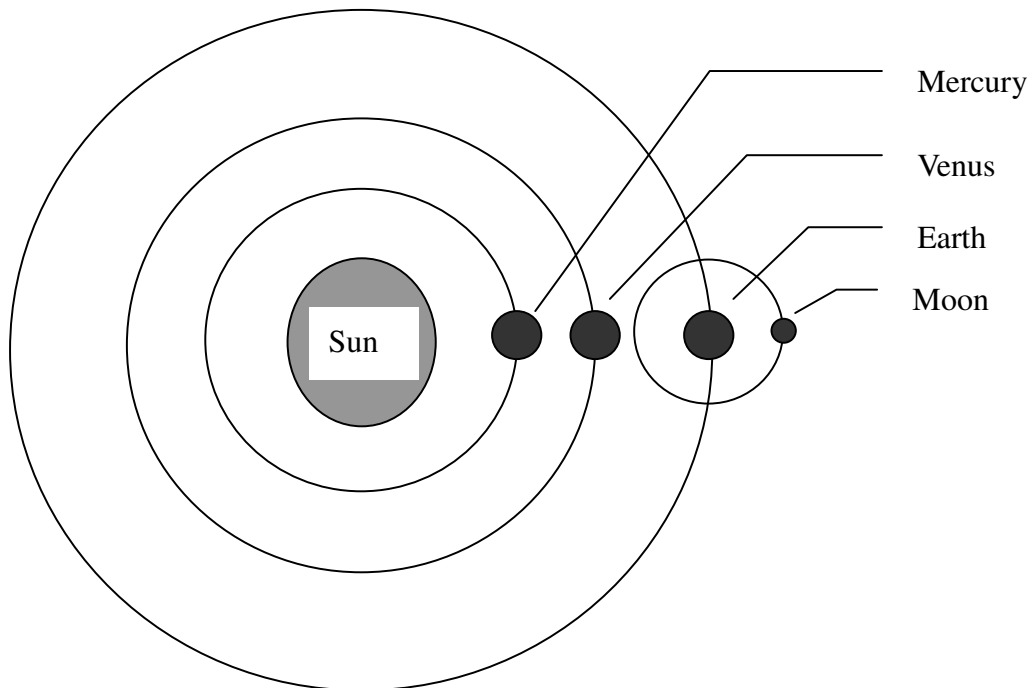
The following figure shows a part of the solar system.   The center is the sun. It is known that the earth takes one year to encircle the sun. Mercury and Venus take 5 months and 9 months to encircle the sun respectively. Moreover, the moon takes 1 month to encircle the earth.

Suppose the figure shows the initial positions of all the planets.   How many months are needed so that all the planets will come back to the same position?

Answer: 180   months are needed.