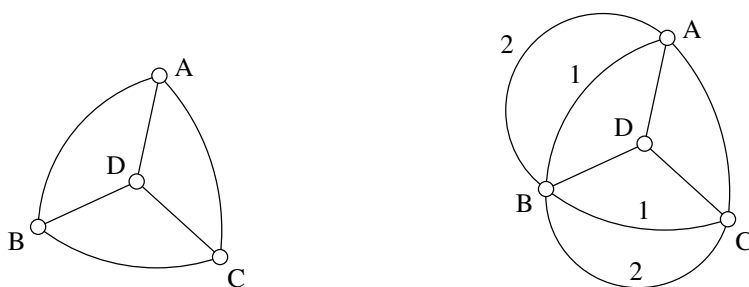


1) Grandma takes five minutes to climb from the first floor of a building to the eighth. If she climbs at the same speed, how long will it take her to get to the ninth floor from the first?

2) Four fountains A, B, C, D in a park are linked by paths as in the picture below. A person wants to have a stroll through the park. She wants to start at one fountain and end at a possible different (or possibly the same) fountain in such a way that she walks along each path exactly once.

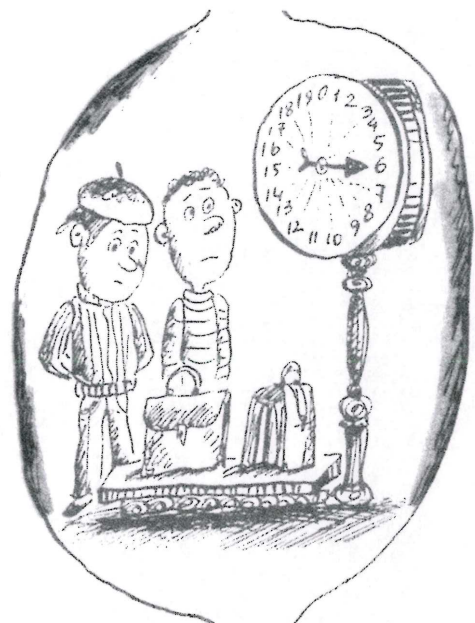
(a) Is there such a path through the park? If yes, find it. If not, explain why there is no such path.

(b) Later two additional paths were laid. Answer (a) for the new layout.



3) Juan and Candice are using a spring scale to weigh their book bags. When they are weighed separately, the scale shows 3 lbs and 2 lbs. When they weigh them together, the scale shows 6 lbs. "That can't be right" said Candice. "Two plus three doesn't equal six!" "Don't you see?" answered Juan. "The pointer on the scale is off"

How much do the book bags actually weigh?



4) Use fingers of one hand to count as follows: the thumb is first, the index finger is second, and so on to the pinkie which is fifth. Then reverse direction so that the ring finger is sixth, the middle finger is seventh, the index finger is eighth, the thumb is ninth. Reverse direction again back toward the pinkie with the index finger tenth, and so on. If you continue to count back and forth along the fingers of one hand, which finger will be the 1000th one?

5) A dot is marked in a circle. (a) Cut the circle into at most three parts so that, by rearranging the parts, you get a circle with its centre at the dot. (b) Is it possible to do so by cutting the circle into at most two parts?