**Tilting Tower Of Pisa**



**The reading passage has three paragraphs. Choose the correct heading for paragraphs A-C from the list of headings. Write the correct number.**

1. Random Tests  
2. Tilt Compensation  
3. Repeating History  
4. Lean Reduction  
5. Model Method

**A**  
One of the world's most famous buildings, the Leaning Tower of Pisa, has recently reopened after ten years of closure, and later in the year, tourists will once again be allowed to climb the ancient monument. The free-standing bell tower of Pisa cathedral started **leaning** to the south as soon as building started. As it was completed in stages over nearly 200 years, the builders compensated for the tilt by bending the tower as it went up. The problem was that the soft sand and clay under its foundations were compressed by the tower's weight. Over the centuries it leaned more and more, and in 1990 it had to be closed to tourists. Professor John Burland of Imperial College, London, **who supervised** the stabilisation work, says it was near to collapse: "We can't say when it would have gone, because that would have been a random event like an earthquake or a storm, but we knew we hadn't got long; we knew we had to do something very quickly."

**B**  
Previous efforts to slow the progress of the tilt had failed to help; in fact some had even accelerated it. The committee appointed by the city of Pisa to plan a rescue considered several options, including pumping water out of the sand, and weighing down the ground on the northern side, opposite the lean. But tests on a concrete model of the Leaning Tower suggested that the best method would be to dig out small amounts of earth from boreholes drilled at an angle under the northern side. Instruments measured the results to the millimetre, as Professor Burland guided the operation by fax from his London office: "We had 41 drill holes going in under the tower over its full width. On any one day we would perhaps operate from four of them at the most, and each day we extracted a maximum of 100 litres, which is really just a few bucketfuls."

**C**  
Professor Burland and the team were well aware that, while allowing the tower to collapse would have been a disaster, straightening it too far would have done Pisa's tourist industry no good either; few visitors would come to see a Vertical Tower of Pisa. But he's satisfied that the drilling has gone just far enough: "We've reduced the lean by about 10%; the tower was leaning about **four-and-a-half** metres near the top. It's now leaning just a little bit over four metres, which is enough to stabilise the tower, but not enough for a tourist to look at it and say, "Ah! They've reduced the lean". It's not visible." The Leaning Tower is now stable; even if it were to return to its former rate of tilt, it should survive another 300 years before more action is needed and from November onwards, tourists will once again be allowed to look down from its overhanging eighth storey.

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Paragraph A   
Paragraph B   
Paragraph C 

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**Answers:**

Question 1: 2.

Question 2: 5.

Question 3: 4.