READING COMPREHENSION: TASK 2

Read this text carefully and answer the questions according to the text.

KATIE BOUMAN: THE WOMAN BEHIND THE FIRST BLACK HOLE IMAGE

A 29-year-old computer scientist has become famous for helping develop the algorithm that created the first-ever image of a black hole.



Image from ichef.bbci.co.uk

Katie Bouman is the scientist who led the development of a computer program that made the breakthrough* image possible. The remarkable photo, showing a ring of dust and gas 500 million trillion km from Earth, was shown for the first time in April 2019. For Dr Bouman the creation of this picture was the realisation of something that previously everybody thought impossible to do.

She started making the algorithm three years before while she was a graduate student at the Massachusetts Institute of Technology (MIT). There, she led the project, assisted by a team of scientists. Thanks to Dr Bouman's algorithm and the Event Horizon Telescope, they captured the black hole image. "When we saw it for the first time, we couldn't believe it. It was quite spectacular," she told the BBC Radio.

How did they create the image? Put simply, Dr Bouman and her scientific team developed a series of algorithms that converted telescopic data into the historic photo shared by the world's media. In mathematics and computer science, an algorithm is a process or set of rules used to solve problems. No single telescope is powerful enough to capture the black hole, so a network of eight linked telescopes, the

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Event Horizon Telescope, was set up to do it, using a technique called interferometry. The data they captured was stored on hundreds of hard drives and sent to central processing centres in Boston, US, and Bonn, Germany. Then four separate teams analysed the results of the algorithms to be sure that the findings were true.

In the hours after the photo's release, Dr Bouman became an international sensation, with her name trending on Twitter. However, Dr Bouman, now an assistant professor of computing and mathematical sciences at the California Institute of Technology, insisted the team that helped her deserves equal credit. The effort to capture the image, using telescopes in locations ranging from Mexico and Chile to Antarctica and Hawaii, involved a team of over 200 scientists. "No one of us could have done it alone. It came together because we were lots of different people from many different backgrounds," she told the CNN.

GLOSSARY:
* **breakthrough**: a significant development or discovery. En català significa 'un avenç o descobriment'.

Text adapted from bbc.com/news/science-environment-47891902

30. Katie Bouman is an expert in...

a. photography.
b. computers.
c. biology.

31. In the sentence: "The remarkable photo, showing a ring of dust and gas...", the adjective 'remarkable' means...

a. typical.
b. extraordinary.
c. unexceptional.

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32. The black hole is...

a. near the Earth.

b. far from our planet.

c. very close to the Sun.

33. In the sentence: "When we saw it for the first time...", the word 'it' refers to the...

a. algorithm.

b. telescope.

c. black hole image.

34. The scientific team used _____ to capture the black hole.

a. one powerful telescope

b. a system of 8 telescopes

c. hundreds of telescopes

35. Different teams _____ the results of the algorithms.

a. studied

b. obtained

c. published

36. Telescopes were located in different places...

a. in Antarctica and Chile, only.

b. including Antarctica and Chile.

c. except for Antarctica and Chile.

37. Dr Bouman thinks her work was possible because...

a. scientists from different areas were on her team.

b. many astronomers were on her team.

c. she worked alone.

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38. **Put the sentences in the correct order as the information appears in the text.**

A.	B.	C.	D.
Scientists set up a network of telescopes to capture the image.	Katie and her team started to work on the project.	The media published the photo of the black hole.	Four teams of scientists analysed the information obtained.

a. B → A → D → C

b. B → D → C → A

c. C → A → B → D

39. **The text you have read is a...**

a. newspaper article.

b. scientific journal.

c. biography.

40. **This text is about...**

a. the importance of black holes.

b. Dr Bouman and her team's work.

c. universities and research centres.

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