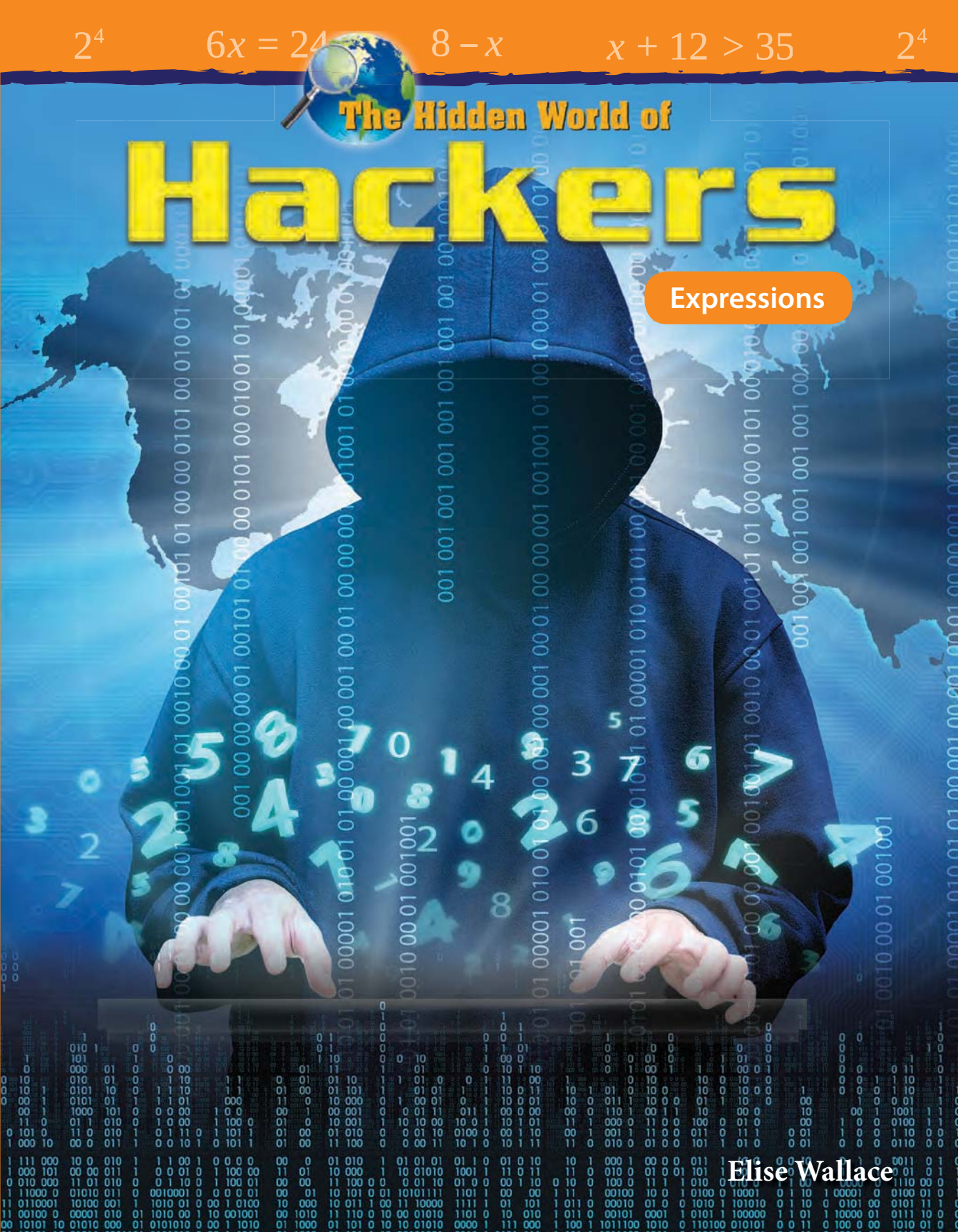
2^4 $6x = 24$ $8 - x$ $x + 12 > 35$ 2^4

The Hidden World of

Hackers

Expressions



Elise Wallace

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The Who, What, and Why

Who are hackers? People often think of hackers as undercover agents who work alone and in secret. But that's not always the case. Many hackers work in networks, collaborating to achieve their goals. Hackers are computer-programming experts who use complex problem-solving to gain **access** to secure networks.

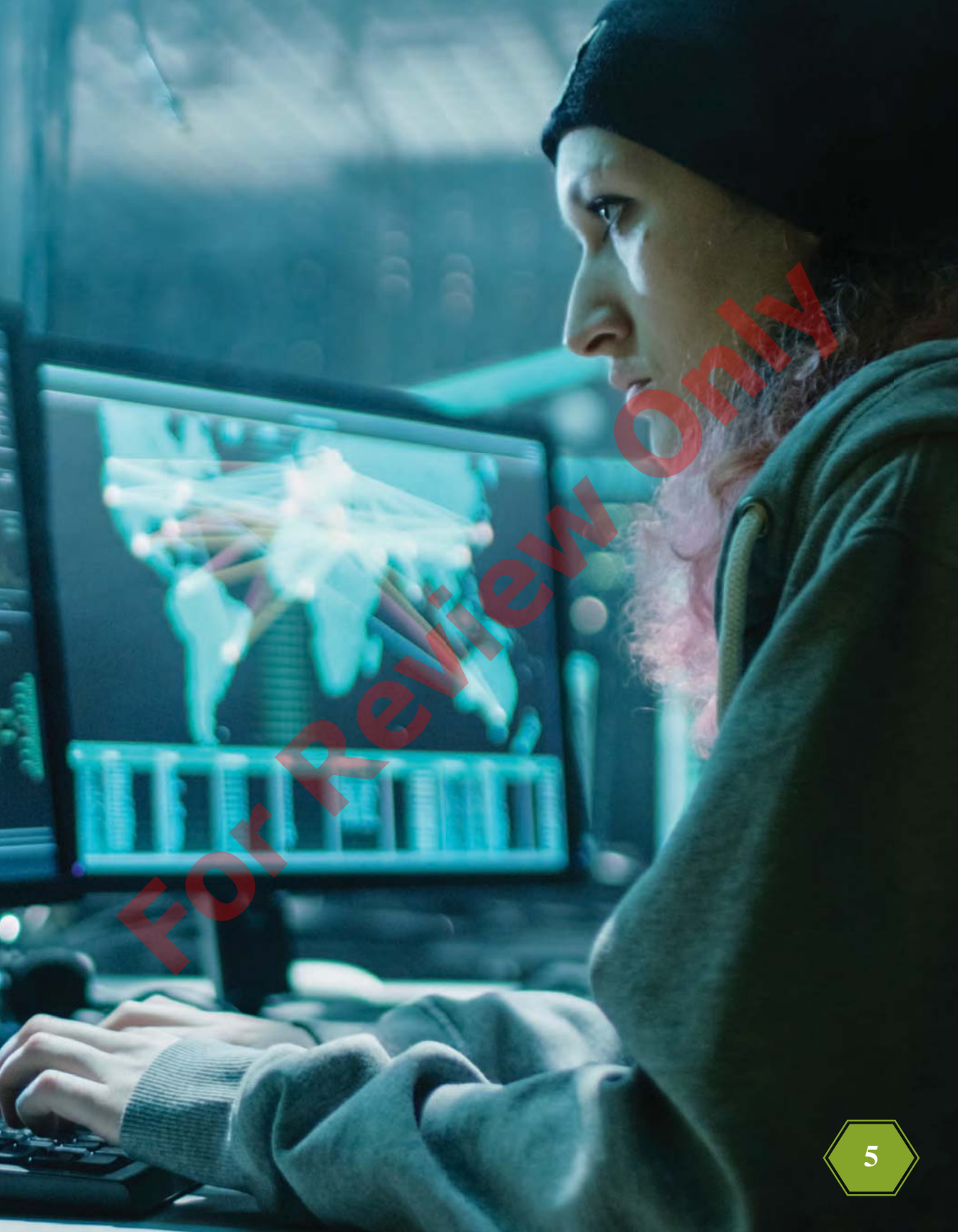
So, what exactly does it mean to *hack*? It's not a simple question. The word can mean many different things. For example, you can hack a tree by cutting it with great force. Or, you can have a hacking cough when you are sick. But the hacking that interests us refers to getting access, either legally or illegally, to information stored on computers.

The reason for hacking changes from person to person. Some hackers are compelled by curiosity. They want to know how a computer system works. Others are motivated by money. They use their abilities to steal information **anonymously**. But there are also hackers who do good! They make programs and networks more secure. These hackers find flaws in the designs of computer systems and fix them before they can cause problems.



A group of students learns about how a computer system works.

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Hacker History

Hacking isn't a recent development. Modern hackers are part of a long and **storied** culture. Some of the first hackers became active in the 1960s and '70s. They **honed** their skills by breaking into phone networks, not computer systems.

These early hackers had a strange secret weapon—toy whistles! In 1955, the first hackers used the Davy Crockett Cat and the Canary Bird Call Flute toy whistles. In the mid 1960s, hackers used the whistles that came in Cap'n Crunch® cereal boxes to control phone systems. Among these hackers was Steve Wozniak, who would later become a cofounder of Apple®.

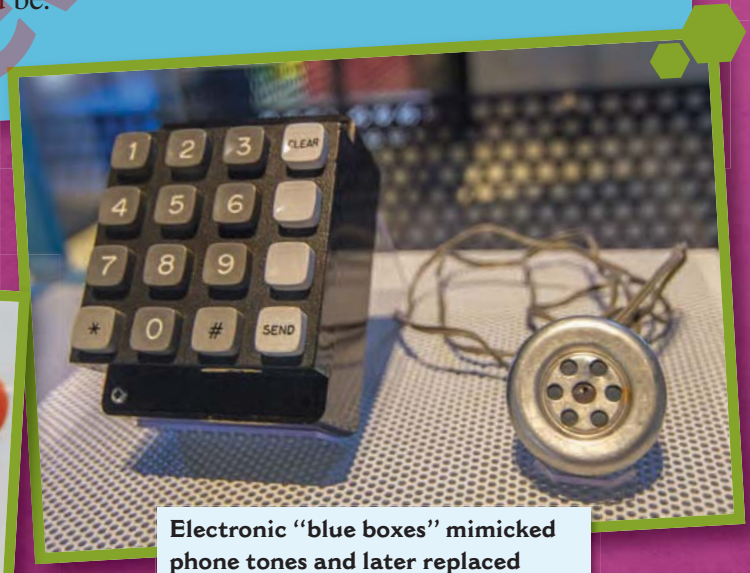
So, how were they able to hack telephones? They used the whistles to **mimic** the tones used by phones. By copying these tones, hackers were able to make long-distance phone calls for free. This system no longer works, though. Telephone companies have long since wised up to such tricks.

The hacking community grew in the 1980s and '90s. There were magazines for hackers that were written by hackers themselves. Online, programmers joined hacker groups. Each group had a different idea of what the purpose of hacking should be.

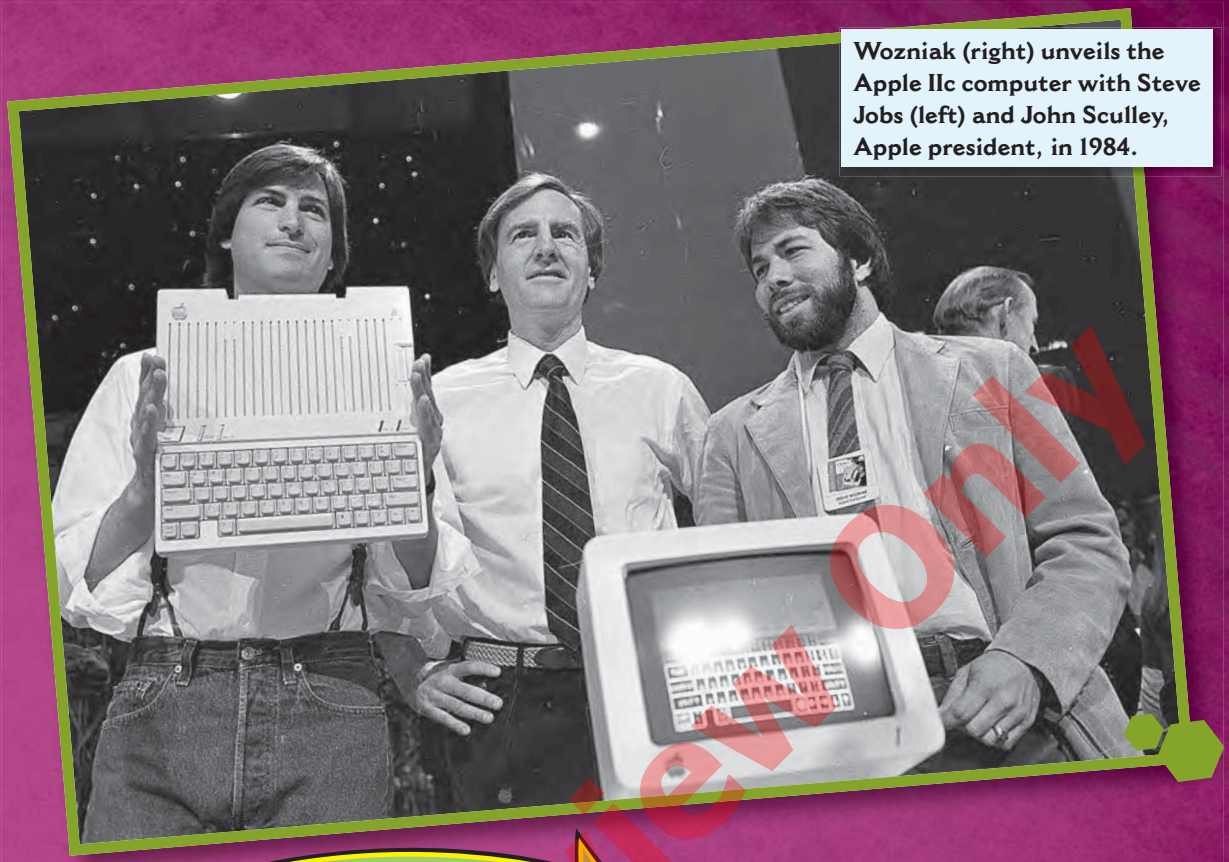
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Cap'n Crunch whistle



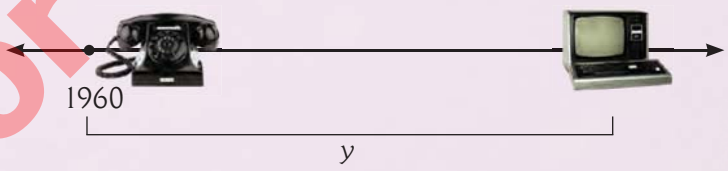
Electronic "blue boxes" mimicked phone tones and later replaced whistles as they were easier to use.



Wozniak (right) unveils the Apple IIc computer with Steve Jobs (left) and John Sculley, Apple president, in 1984.

LET'S EXPLORE MATH

Several years after 1960, hackers started hacking computers instead of phone networks. Choose all the expressions that represent "y years after 1960."



A. $y + 1960$

B. $1960y$

C. $1960 - y$

D. $1960 + y$

For Preview Only

The 1980s were an important time for hacker culture. Some of the most famous hackers emerged during this decade. Robert Tappan Morris was one of them. In 1988, he made a program that was meant to be harmless. The computer program was called a *worm*. Morris thought the worm would travel from computer to computer and hide. He wanted to see if it could be done. But Morris's worm actually ruined thousands of systems. He was fined $10,000. Morris also had to perform hundreds of hours of public service.

Though Morris faced criminal charges, he never lost interest in programming. Years later, he devoted his time to teaching. Morris teaches at the Massachusetts Institute of Technology (MIT). It is one of the most **esteemed** schools in the United States.

Another famous hacker of the 1980s was Kevin Mitnick. He was able to hack into government agencies as a teenager. At one point, Mitnick was on the FBI's most wanted list! He ended up serving time in prison. Once he was released, Mitnick put his hacker talents to better use. Today, he helps people improve their **cybersecurity**.



Kevin Mitnick

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Morris walks out of the courthouse during his criminal trial.

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