Name: _____ Class: _____ Date: _____

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1. The Internet originated as a military and government project.
   a. True
   b. False

ANSWER: a

2. The Internet was originally created to transport messages more rapidly for an increasingly sedentary and isolated population.
   a. True
   b. False

ANSWER: b

3. ARPAnet is a browser.
   a. True
   b. False

ANSWER: b

4. The Internet was designed so that a centralized authority could control electronic communication during a nuclear disaster.
   a. True
   b. False

ANSWER: b

5. The Internet is a hierarchically structured network.
   a. True
   b. False

ANSWER: b

6. The Internet is owned and operated by the federal government, which has the power to shut it down when necessary.
   a. True
   b. False

ANSWER: b

7. E-mail was one of the earliest services of the Internet.
   a. True
   b. False

ANSWER: a

8. The introduction of microprocessors in the 1970s made personal computers possible.
   a. True
   b. False

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ANSWER: a

9. HTML stands for “hypertext markup language.”
   a. True
   b. False

ANSWER: a

10. Mosaic was the first user-friendly browser.
   a. True
   b. False

ANSWER: a

11. In the first decades of the Internet, most people connected to it through telephone wires.
   a. True
   b. False

ANSWER: a

12. In the 1990s, AOL was the top Internet service provider in the United States.
   a. True
   b. False

ANSWER: a

13. Bing has nearly 66 percent of the search engine market share.
   a. True
   b. False

ANSWER: b

14. The web is a participatory medium in which anyone can be involved.
   a. True
   b. False

ANSWER: a

15. Disinformation is another term for misinformation.
   a. True
   b. False

ANSWER: b

16. Misinformation is false or misleading information spread by people who assume it’s true.
   a. True
   b. False

ANSWER: a

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17. Social media has only brought benefits for democracy.

a. True
b. False

ANSWER: b

18. Features of online social media help create filter bubbles.

a. True
b. False

ANSWER: a

19. Google uses profile information to deliver targeted and personalized ads to its users.

a. True
b. False

ANSWER: a

20. Cookies are files that allow a website owner to chart a computer user's movements within the website and collect other information about the user.

a. True
b. False

ANSWER: a

21. The Children's Internet Protection Act of 2000 requires schools and libraries that receive federal funds for Internet access to filter out obscene, pornographic, or otherwise harmful content from websites.

a. True
b. False

ANSWER: a

22. Most websites follow an "opt-in" data policy when collecting information from online consumers.

a. True
b. False

ANSWER: b

23. Open-source software has code that can be updated by anyone interested in modifying it.

a. True
b. False

ANSWER: a

24. Linux is an example of open-source software.

a. True
b. False

ANSWER: a

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25. Universal access is the notion that every citizen, regardless of income or location, should have the opportunity to use and benefit from a technology.

a. True
b. False

ANSWER: a

26. Which country has the most Internet users?

a. China
b. South Korea
c. Turkey
d. France

ANSWER: a

27. What was one original motivation for developing the Internet?

a. technical innovation
b. entrepreneurial ambition
c. communication security
d. desire for a new toy, or novelty

ANSWER: c

28. Designed by the U.S. Defense Department's Advanced Research Projects Agency, what was the original Internet called?

a. ARPAnet
b. HTML
c. WWW (World Wide Web)
d. MSDOS

ANSWER: a

29. Which statement about the Internet is NOT true?

a. One of the goals for its creation and early development was to strengthen the nation's research capacity.
b. It is a hierarchical network in which some users have the power to kick others off the network.
c. Roughly 90 percent of Americans use the Internet at least occasionally.
d. In its development stage, the Internet was primarily used by universities, government research labs, and corporations involved in computer software and other high-tech products.

ANSWER: b

30. Which option was a user-generated practice from early Internet users?

a. bulletin board services
b. websites
c. search engines

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d. social media

ANSWER: a

31. Which two developments were key to the Internet's marketability?
    a. microprocessors and fiber-optic cable
    b. ARPAnet and microprocessors
    c. ARPAnet and digitization
    d. e-commerce and distributed networks

ANSWER: a

32. What is the difference between the Internet and the web?
    a. Both are competing computer programs; the web is the more popular one.
    b. The Internet was originally for file transfer, while the web was a data-linking system.
    c. The Internet is a system of linked computers; the web is a system of linked satellites.
    d. The Internet is the older version of the web.

ANSWER: b

33. What is the name of the language used for displaying text, images, and other multimedia that allows users to link files to one another?
    a. JavaScript
    b. HTML
    c. Mosaic
    d. Linux

ANSWER: b

34. What does the "M" in HTML stand for?
    a. Microsoft
    b. markup
    c. medium
    d. modular

ANSWER: b

35. Which invention brought the Internet to mass audiences?
    a. web browsers
    b. search engines
    c. e-mail
    d. computer bulletin boards

ANSWER: a

36. Web navigation software packages such as Firefox and Safari are examples of
    a. social media.

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b. search engines.
c. operating systems.
d. browsers.

ANSWER: d

37. What does the "S" in ISP stand for?
a. superscript
b. service
c. system
d. social

ANSWER: b

38. As broadband connections became more available, users moved away from
a. the Internet.
b. dial-up service.
c. e-mail.
d. Internet service providers.

ANSWER: b

39. Which option is NOT one of today's major ISPs?
a. Verizon
b. Comcast
c. AT&T
d. Google

ANSWER: d

40. Facebook is an example of
a. an ISP.
b. a web browser.
c. a social media platform.
d. an operating system.

ANSWER: c

41. YouTube is an example of which kind of service
a. Web 1.0
b. Web 2.0
c. Web 3.0
d. ISP

ANSWER: b

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42. As early as 1999, HTML inventor Tim Berners-Lee anticipated the emergence of
    a. the World Wide Web.
    b. voice recognition assistants.
    c. the Semantic Web.
    d. ISPs.

ANSWER: c

43. Apple's voice recognition assistant, Siri, is an example of what?
    a. Web 3.0
    b. social media platforms
    c. Web 1.0
    d. Web 2.0

ANSWER: a

44. Which term describes the use of the symbol # before a word or phrase that communicates a larger idea, event, or objective?
    a. hashtag activism
    b. net neutrality
    c. universal access
    d. walled garden

ANSWER: a

45. Which statement BEST describes a benefit of online communities?
    a. Information that upholds a community's preexisting beliefs can spread quickly.
    b. Online communities can provide support and advice for marginalized groups.
    c. Online communities can lead to increased polarization.
    d. An online community can become disconnected from other communities.

ANSWER: b

46. Which term describes spaces where we are exposed only to ideas and opinions that match our existing beliefs?
    a. social media platforms
    b. filter bubbles
    c. walled gardens
    d. cookies

ANSWER: b

47. Our tendency to favor information that conforms to our preexisting beliefs over information that challenges them is known as
    a. filter bubbles.
    b. confirmation bias.

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c. walled gardens.
d. Fear of Missing Out (FOMO).

ANSWER: b

48. What term refers to various ways of encoding information that existed before binary code?
a. Web 2.0
b. read-only
c. digitization
d. analog

ANSWER: d

49. Which statement about digital and analog media content is true?
a. The conversion of an image onto celluloid by a chemical process is digital.
b. Digital content is easier to manipulate.
c. The carving of a song into grooves on vinyl is digital.
d. The encoding of content into ones and zeros is analog.

ANSWER: b

50. Which term describes a society in which people are able to create and communicate by mixing, editing, combining, manipulating, or repurposing existing content?
a. remix culture
b. walled garden
c. filter bubble
d. disinformation

ANSWER: a

51. What legal doctrine permits people to use copyrighted material without permission as long as the use does not compromise its value?
a. net neutrality
b. the Semantic Web
c. the remix culture law
d. right of fair use

ANSWER: d

52. A video that uses digital editing technology to make it look as though a well-known person was somewhere doing something they never actually did is known as a
a. walled garden.
b. remix.
c. GIF.
d. deepfake.

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ANSWER: d

53. Which term describes the business model that involves making money by controlling the personal data of millions of users?

a. data mining
b. net neutrality
c. universal access
d. surveillance capitalism

ANSWER: d

54. How does Google make money from e-mail?

a. through ads based on key words in e-mails
b. via fees charged to users
c. through government subsidies
d. via reimbursements from computer manufacturers

ANSWER: a

55. Which statement about targeted advertising is NOT true?

a. It is a passing fad because it is unpopular with advertisers and generates very little revenue.
b. It is a big part of the revenue of sites like Google and Facebook.
c. Some versions read your e-mail messages to find key words that trigger specific ads.
d. It may undermine the role of search engines to provide neutral access to information.

ANSWER: a

56. The infinite scroll of a platform such as Pinterest or Instagram is an example of what principle?

a. net neutrality
b. data mining
c. addictive design
d. surveillance capitalism

ANSWER: c

57. Which law grants sweeping powers to law enforcement agencies to intercept individuals' online communications, including e-mail and browsing records?

a. Communications Decency Act
b. Telecommunications Act
c. USA PATRIOT Act
d. Children's Internet Protection Act

ANSWER: c

58. Which definition BEST describes the principle of net neutrality?

a. a public service ethos rooted firmly in the assumption that all data being sent across the Internet

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would be treated the same

b. the notion that every citizen, regardless of income or location, should have the opportunity to use and benefit from a technology

c. a collective effort to openly share program source codes along with ideas for improving programs

d. a legal doctrine that permits people to use copyrighted material without permission as long as the use does not compromise its value

ANSWER: a

59. What is an "opt-in" Internet policy?

a. a policy that assumes a website has the right to collect and share your information

b. a policy of inserting spyware on unsuspecting computers

c. a policy whereby consumers have to give their consent before a website can collect any browsing-history data

d. a policy favored by marketers and data-mining corporations

ANSWER: c

60. Which statement about Linux software is NOT true?

a. It is subscription based.

b. Many people have contributed to its development.

c. It is most often found on operating servers rather than on PC desktops.

d. It was established by Linus Torvalds in 1991.

ANSWER: a

61. What is the main difference between Linux software and Microsoft software?

a. Microsoft is less reliable.

b. Linux is less reliable.

c. Linux is open-source software.

d. Microsoft is open-source software.

ANSWER: c

62. What is NOT a threat to privacy of personal information on the Internet?

a. government surveillance

b. data mining

c. cookies

d. digital archiving

ANSWER: d

63. What does the term *digital divide* refer to?

a. the contrast between those who can afford technology and those who cannot

b. the length of time it takes for messages to travel between two continents

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c. the competition between software companies
d. the programming gap between using a Microsoft operating system and a system like Linux

ANSWER: a

64. Which statement regarding smartphones and the digital divide is accurate?
a. Smartphones widen the digital divide because the newest models are prohibitively expensive.
b. Smartphones narrow the digital divide by providing an alternative to home Internet service.
c. Smartphones widen the digital divide by giving affluent people even more access to the Internet.
d. Smartphones narrow the digital divide by acting as a perfect substitute for broadband Internet.

ANSWER: b

65. Which technology could narrow the digital divide by providing download speeds on par with broadband?
a. 4G
b. 5G
c. 6G
d. walled gardens

ANSWER: b

66. A citizen of which country is MOST LIKELY to have limited or no access to the web?
a. Japan
b. Turkey
c. Sweden
d. Australia

ANSWER: b

67. A citizen of which country is LEAST LIKELY to have limited or no access to the web?
a. Russia
b. South Korea
c. China
d. Pakistan

ANSWER: b

68. Which reason BEST explains why powerful companies have rushed to provide Internet access via mobile phone networks to underserved parts of the world?
a. to spread democracy
b. to narrow the digital divide
c. to combat Russian troll farms
d. to find new markets

ANSWER: d

69. Which country's tech giant Huawei has been winning contracts to build much of Africa's 5G infrastructure?

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a. Japan
b. South Korea
c. China
d. North Korea

ANSWER: c

70. Name a group that worked to establish the early Internet. Explain the motivation for developing the Internet.

ANSWER: Answers will vary but should indicate that the U.S. Department of Defense, funded by U.S. taxpayers, developed the Internet. In the 1950s and 1960s, military leaders preparing America for the Cold War looked to address two concerns. First, existing communication systems were highly centralized, which also made them vulnerable: If a Soviet nuclear bomb destroyed a central communication hub, the United States' ability to respond would be compromised. Researchers at the Defense Department's Advanced Research Project Agency (ARPA) envisioned a distributed network system where messages could be rerouted, meaning the loss of any single node would not disrupt communication. Second, anxious to ensure U.S. technological superiority, ARPA worked to strengthen the nation's research capacity, which included finding ways to better utilize expensive supercomputers, which were becoming vital research tools.

71. Many experts agree that one of the major characteristics that make the Internet unique is that it cannot be centrally controlled. Explain why and how this came about.

ANSWER: Answers will vary but should discuss how the Internet became decentralized. Before the Internet, communication systems were highly centralized, which also made them vulnerable: If a Soviet nuclear bomb destroyed a central communication hub, the United States' ability to respond would be compromised. Researchers at the Defense Department's Advanced Research Project Agency (ARPA) envisioned a distributed network system where messages could be rerouted, meaning the loss of any single node would not disrupt communication. Ironically, one of the most hierarchically structured institutions in our culture—the national defense industry—created the Internet, one of the least controllable communication systems ever conceived. While companies own parts of the Internet's infrastructure and organizations establish technical protocols that determine how computers get connected, no entity can turn off the network or dictate who can or cannot join it.

72. Explain the characteristics that distinguish Web 1.0, Web 2.0, and Web 3.0.

ANSWER: Answers will vary but should explain the differences between the different periods of the Internet. In the early 1990s, a handful of developments—the creation of the World Wide Web, the first web browsers, and the growth of Internet service providers and search engines—pushed the Internet into its Web 1.0 phase, in which it became a mass medium used by many people. In the early 2000s, there was a major shift in what users could do online. In Web 1.0, the web was a read-only system: websites were places people went to view information. In the next phase, which some called Web 2.0, the web became read-write, or interactive—a place where users could read information, contribute their own digital content, and directly engage with other users. Certain changes have pushed the Internet into a new phase—what some have called Web 3.0—that is characterized by two interrelated developments: the Semantic Web and the Internet of Things. We now have a Semantic Web in which web pages and databases are created in such a way that a computer—functioning as something akin to artificial intelligence—can examine the web's vast quantities of data and automatically provide useful solutions to people's needs. The second

component of Web 3.0 is technology that allows a growing array of devices—TVs, tablets, and smartphones, but also cars, refrigerators, thermostats, traffic lights, and more—to communicate with each other and with the Internet. The Internet of Things, as it has been dubbed, is integrating the Internet into almost every part of our environment, including hospitals, urban infrastructure, factories, financial systems, and our homes.

73. Discuss some ways that the web's interactivity has fostered problem solving and content creation.

ANSWER: Answers will vary but should discuss how the Internet facilitates problem solving and content creation. Responses may also use personal examples to illustrate the use of the Internet in problem solving and content creation. Some observers suggested that the web's new level of interactivity would revolutionize problem solving and content creation by harnessing the collective intelligence of a vast population. Indeed, the development of wikis—open and collaborative websites where people work together to edit and create content—has supported such collective engagement. Wikipedia, the online encyclopedia with over fifty-four million articles that is continually updated by millions of editors, is the best-known example. Many other parts of the web also leverage crowdsourcing potential to create user-generated storehouses of knowledge about everything from the quality of local restaurants to video game cheat codes to the difficulty of professors' exams. In certain ways, such efforts follow the ethos of the Internet's earliest users, who celebrated the open exchange of information.

74. Describe the relationship between the Semantic Web and the Internet of Things.

ANSWER: Answers will vary but should discuss how the Semantic Web and the Internet of Things have led to the creation of Web 3.0. As early as 1999, Tim Berners-Lee, the web's original creator, anticipated the emergence of a Semantic Web in which web pages and databases would be created in such a way that a computer—functioning as something akin to artificial intelligence—could examine the web's vast quantities of data and automatically provide useful solutions to people's needs. By the 2010s, that vision had started to become a reality. For example, because Netflix employees tag each film and TV series with information about the cast, genre, date of release, and tone, Netflix's algorithm can review the programs you've watched, determine that you like "feel-good coming-of-age movies with a strong female lead," and suggest other similar programs for you. A related component of Web 3.0 is technology that allows a growing array of devices—TVs, tablets, and smartphones, but also cars, refrigerators, thermostats, traffic lights, and more—to communicate with each other and with the Internet. The Internet of Things, as it has been dubbed, is integrating the Internet into almost every part of our environment, including hospitals, urban infrastructure, factories, financial systems, and our homes. An Internet-connected refrigerator, for example, can take a photo of the interior every time the door closes, making it possible for someone at the supermarket to call up the last photo when deciding whether or not to buy milk. The Internet of Things and the Semantic Web are expected to work in tandem to alter how we relate to our media environment. Voice recognition assistants like Amazon's Alexa and Apple's Siri already rely on the two Web 3.0 developments.

75. The Internet has decentralized the creation and spread of information. In what ways has this development been beneficial? In what ways has it been problematic?

ANSWER: Answers will vary but should point out that people have effectively used Twitter, Facebook, and other social media platforms for grassroots activism. Through their decentralized social media accounts, they have challenged repressive regimes, usurped their governments' centralized control

of information and propaganda, and exposed government atrocities. One of the earliest instances of democratic action was the wave of protests in numerous Arab nations in North Africa and the Middle East that began in late 2010 and resulted in four rulers being forced from power by mid-2012. The use of digital communication technologies to address injustice and organize grassroots movements has also played out in the United States, where movements on social media like #BlackLivesMatter and #MeToo have helped connect and mobilize millions. But while the use of unrestricted communication can be powerful, it can also get complicated quickly. The digital technologies that allow citizens to challenge injustice can also be used by cyberbullies, trolls, criminals, authoritarian governments, and terrorists. For example, the terrorist organization ISIS, one of the warring parties in Syria and Iraq, has successfully used the Internet and social media to recruit young men and women from other countries and to inspire others to commit terrorism around the world. The Internet's decentralized structure also makes it difficult to contain misinformation and disinformation.

76. Discuss some of the benefits and complications of the Internet's potential to create online communities. Use examples in your response.

ANSWER: Answers will vary but should discuss how the communities people engage with through the Internet can enhance their lives in meaningful ways. Fan communities are among the best-known examples. While fan clubs operated throughout the twentieth century via local chapters and newsletters, the Internet has dramatically changed their scale and accessibility. Fans from around the world who love the *Harry Potter* book and film franchises, for example, can visit websites to chat with other fans, create or listen to podcasts, share and read fan fiction, or participate in online role-play experiences. As the popularity of such communities suggests, they play a role in helping people find and build bonds with others who share their interests and values. But the very features of the Internet and social media that help us build meaningful bonds with some people can make it harder to build bonds with others, contributing to issues of fragmentation and polarization. Concerns about the health of our current political culture have led people to examine social media's role in creating online filter bubbles—spaces where we are exposed only to ideas and opinions that match our existing beliefs. Models show that over time, users find themselves in increasingly homogeneous networks; conservative and liberal users, for example, become disconnected from each other, and posts that are shared among one group rarely circulate among the other group. Models also show that surrounding ourselves with networks of like-minded people can make us more vulnerable to false information. Information that upholds a community's preexisting beliefs—whether that information is accurate or not—tends to spread quickly across a homogeneous network, while an article debunking false information is unlikely to be shared widely in the same space.

77. Discuss some of the benefits and complications of remix culture.

ANSWER: Answers will vary but should discuss the benefits and complications of remix culture. A benefit of digital technology is that it allows people to do more with media than consume it. The act of remixing has always been essential to how humans express themselves. Artists often remix other works of art (e.g., allusions in poetry, sampling in rap music, and homages in film), but people also remix as part of daily life. The digital revolution helped make remixing an important feature of contemporary culture, influencing how professional producers and everyday users make media products and communicate with other people. However, the fact that digital content can be manipulated so easily has consequences. Media companies, for example, have fought to maintain

control of their copyrighted brand assets out of fear that remixes can undermine their corporate goals. Digital content manipulation also raises concerns about the impact modified representations might have on cultural norms. Today, Photoshop artists routinely manipulate fashion spreads and Instagram photos to make men more buff or give women unnaturally thin thighs, smooth skin, long necks, and bright eyes, establishing unrealistic and possibly harmful beauty standards. Image manipulation has also become a concern for journalists. In its June 2020 coverage of protests in Seattle over the police killing of George Floyd, Fox News posted digitally altered photos on its website that remixed elements from other photographs, seemingly to intensify the sense of social menace in the resulting image. Another type of deceptive material created to mislead the public are deepfakes: images or videos that use advanced digital editing technology to create fraudulent but convincing content. Deepfake tools can superimpose the face of a politician or celebrity onto the face of someone else in a video, making it look as if the well-known person was somewhere doing something they never actually did.

78. Define "surveillance capitalism," and explain how the most powerful Internet-era companies profit from it.

ANSWER: Answers will vary but should discuss how Google, Amazon, and Facebook are among the most powerful Internet-era companies because of their role in the rise of surveillance capitalism—an increasingly important business model that involves making money by controlling the personal data of millions of users. Through its search engine and ad-placement service Google Ads, Google, in particular, has radically changed advertising by using the interactive nature of the web to micro-target consumers in a way that traditional magazine or TV ads never could. For example, Google builds unique profiles of each of us that include assumptions about our age, race, location, income, education level, political sensibilities, restaurant preferences, and many other data points. It compiles these profiles by constantly tracking—or data mining—our search histories, locations, browser settings, and even the videos we watch on YouTube. If we have a Gmail account, it scans our e-mails. If we use Google Maps, it knows where we are. If we visit one of the millions of websites or apps Google "partners" with, it knows everything we do there. If we use an Android phone, Google monitors how long it takes us to open a particular app, and determines whether we are walking, biking, or driving to certain locations.

79. Discuss some ways that companies like Google and Facebook attempt to control our attention.

ANSWER: Answers will vary but should provide examples of how Google and Facebook participate in the attention economy. Controlling our attention helps companies like Google and Facebook collect more data and create opportunities to sell more ads—all essential tactics in the emerging attention economy. For example, Facebook and Instagram (both owned by Facebook Inc.) are designed to mine enormous amounts of data from users through their profiles, likes, and posts. Of course, as noted earlier, these apps also encourage users to build an ever-growing network of friends. This expanding network gives Facebook access to even more layers of data, since the company can look beyond individual users to find patterns in behaviors and preferences across an entire community. Facebook and Instagram were also created to maximize user engagement. The social nature of these platforms exploits our innate desire to connect with people we know, but the companies behind these platforms use addictive design principles developed from research into human behavior modification. Key features—the infinite scroll, notifications, "like" buttons, and continually updated content—exploit aspects of human psychology to increase the time users spend on the platforms and to make checking for updates and messages a habit.

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80. Discuss the emergence of powerful digital-era surveillance states and their consequences.

ANSWER: Answers will vary but should discuss that while companies like Google and Facebook gather our personal data for profit, governments usually do so in order to maintain national security, social order, or political control. Since the inception of the Internet, government agencies worldwide have obtained communication logs, web browser histories, and the online records of individual users who thought their online activities were private. In the United States, for example, the USA PATRIOT Act (which became law shortly after the September 11 attacks in 2001) grants sweeping powers to law enforcement agencies to intercept individuals' online communications, including e-mail and browsing records. Emerging technologies are extending government surveillance powers even further, leading some to fear the rise of powerful digital-era surveillance states—societies in which governments conduct systematic mass surveillance on their populations. The media environment in which we live provides governments with powerful new surveillance tools. The Chinese government, for example, works closely with Chinese technology companies like Tencent to conduct mass surveillance of messages sent on apps like WeChat, the country's most popular messaging service. It is also in the process of building a vast network of urban video cameras, which—in combination with cell phone tracking, facial recognition technologies, and centralized databases—will give the government an unprecedented degree of surveillance power. The system is already being deployed in China's westernmost province as part of the government's efforts to control the ethnic Uyghur people.

81. Use an example to explain what walled gardens are and why they may pose negative consequences.

ANSWER: Answers will vary but should use an example to explain walled gardens and their negative consequences. In a world where smartphones are becoming the preferred way to access the Internet, many of us don't typically surf the web to find what we need. Instead, we often end up in highly managed environments brought to us by apps—what some have called walled gardens. Instagram, Facebook, and Pinterest are good examples of these types of environments. By bringing continuous streams of content directly to our feeds, each of these apps is designed to discourage us from leaving to surf elsewhere. These apps have clean, orderly, and easy-to-use interfaces, but we can wind up trapped in their closed gardens without exactly choosing to be. Under the direction of cofounder and longtime CEO Steve Jobs, Apple Inc. famously built its own walled garden by developing hardware, software, and retail services like iTunes and its app store, which offer consumers a seamless, integrated experience—as long as they stay loyal to Apple. Although MacBooks can work with Android phones, and iPhones can work with non-Apple laptops, using all Apple products makes it possible to do more, like receive texts and phone calls on our laptops. Apple's iCloud storage and syncing service enables users to instantly access media content purchased from Apple stores on any Apple mobile device. With each new product and service, Apple tempts users to enter and stay inside its insulated ecosystem with the promise of a more secure and efficient experience. It also comes at a price: Not only do Apple products generally cost more, but Apple also profiles its customers across all of their Apple devices and applications.

82. Discuss the principal of net neutrality and the argument in favor of it presented by net neutrality supporters and large Internet corporations.

ANSWER: Answers will vary but should discuss net neutrality and arguments in favor of it. The Internet's infrastructure was initially built and managed by various government agencies and developed within a public service ethos rooted firmly in the assumption that all data being sent across the Internet would be treated the same—that is, it would have the same access to the network and

travel across it at the same speed. This vision—what would become known as the principle of net neutrality—went unchallenged for decades. But telephone and cable companies increasingly wanted to treat the data that travels on their networks differently, delivering content faster to clients willing to pay higher rates and providing preferential service for their own content or for content providers who made special deals with them. These companies argue that asking content providers to pay different fees will give them resources needed to improve the network's infrastructure and allow them to lower Internet access costs for customers. In reality, they are simply looking to maximize profits. Supporters of net neutrality—such as bloggers, video gamers, educators, religious groups, unions, nonprofit organizations, and small businesses—claim that the cable and telephone giants have powerful incentives to rig their services and cause network congestion in order to force customers to pay a premium for higher-speed connections. They also argue that an Internet without net neutrality would hurt small businesses, nonprofits, and Internet innovators, who might get stuck in the "slow lane," not being able to afford the same connection speeds that heavily funded corporate websites can afford. Large Internet corporations like Google, Yahoo!, Amazon, eBay, Microsoft, Skype, and Facebook also support net neutrality because their businesses depend on their millions of customers having equal access to the web.

83. How are individuals and organizations attempting to regain control of their privacy from tech companies and governments?

ANSWER: Answers will vary but should discuss attempts by citizens to regain control from tech companies. People are using a number of strategies to regain control over their information: regulation, protective software, and campaigns for change. Consumer and privacy advocates have called for stronger regulations related to data collection, such as opt-in policies requiring explicit permission from consumers before websites can collect browsing history data. While the FTC has no power to enforce its fair information practice principles, Europe has passed stronger regulations, with large penalties for violations. In the United States, some activists and politicians have called for the use of antitrust laws to break up tech giants, with the argument that their business tactics limit innovation and their market domination makes them less responsive to consumer demands. Protective software such as browser plug-ins to block ads and social media tracking can help people protect their privacy. Finally, both nongovernment organizations, such as the Electronic Frontier Foundation, and private citizens have organized to advocate for user privacy.

84. Define the ideal of universal access, and use an example to illustrate its significance with respect to the Internet.

ANSWER: Answers will vary but should provide an explanation of universal access and an example to illustrate the significance of universal access. The democratic potential of communication systems has often been measured against the ideal of universal access—the notion that every citizen, regardless of income or location, should have the opportunity to use and benefit from a technology. This principle has long guided the development of the U.S. postal system, as well as broadcast radio and television. As going online evolved from a novelty to an essential tool of daily life—a development only amplified during the 2020 coronavirus pandemic, when many people relied on the Internet for school, work, food, and health-care services—the consequences of unequal access to the Internet grew more serious. Unequal access to the Internet has real consequences for people, and the hurdles to getting online can involve more than just access to technology. A study about the importance of an online community for rural LGBTQ+ teens, for example, revealed the challenges teens faced accessing that community. Some didn't have Internet access at home, but

even those who did were nervous about using a family computer to visit LGBTQ+ sites. Some tried to get online at school or libraries, but the sites were often blocked.

85. Briefly explain the concept of the "digital divide."

ANSWER: Answers will vary but should explain that the term *digital divide* refers to the contrast between the information haves (those who can afford to pay for Internet services) and the information have-nots (those who can't). Answers may reflect on how smartphones are helping narrow the digital divide and the growth in users of smartphones and cell service. Answers may also note that globally, the have-nots face even greater obstacles in crossing the digital divide. Although the web claims to be worldwide, the most economically powerful countries—such as the United States, Sweden, Japan, South Korea, Australia, and the United Kingdom—account for much of its activity and content. In nations such as China, Russia, Turkey, and Pakistan, the government permits limited access or no access to the web. In many underdeveloped countries, the lack of computers and widespread phone networks has hampered Internet access for decades. However, as mobile phones become more popular in the developing world, they could provide one remedy to the global digital divide.