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1. _____ refers to the symbols that represent people, events, things, and ideas.
ANSWER: Data

2. Data refers to the symbols that represent people, events, things, and ideas.
     a. True
     b. False
ANSWER: True

3. Data becomes _____ when it is presented in a format that people can understand and use.
ANSWER: information

4. Data _____ refers to the form in which data is stored, processed, and transmitted.
ANSWER: representation

5. Digital data can be _____ that have been converted into discrete digits such as 0s and 1s.
     a. text
     b. numbers
     c. graphics, sound, and video
     d. all of the above
ANSWER: d

6. The process of converting information, such as text, numbers, photos, or music, into digital data that can be manipulated by electronic devices is called _____.
     a. binary
     b. digitization
     c. representation
     d. none of the above
ANSWER: b

7. A file name extension indicates the file format.
     a. True
     b. False
ANSWER: True

8. The 0s and 1s used to represent digital data are referred to as _____ digits.
ANSWER: binary

9. _____ data consists of numbers that can be used in arithmetic operations.
     a. Text
     b. Digital
     c. Numeric
     d. Binary
ANSWER: c

10. The binary number system has only two digits: 1 and 2.

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   a. True
   b. False
ANSWER: False

11. The _____ number system allows digital devices to represent virtually any number simply by using 0s and 1s.
   a. digital
   b. text
   c. numeric
   d. binary
ANSWER: d

12. Character data is composed of letters, symbols, and numerals that are used in calculations.
   a. True
   b. False
ANSWER: False

13. ASCII requires _____ bits for each character.
   a. two
   b. six
   c. seven
   d. ten
ANSWER: c

14. Unicode uses_____ bits and provides codes for 65,000 characters.
   a. seven
   b. eight
   c. ten
   d. sixteen
ANSWER: d

15. Plain, unformatted text is sometimes called ASCII text.
   a. True
   b. False
ANSWER: True

16. ASCII text files contain formatting.
   a. True
   b. False
ANSWER: False

17. In a formatted text file, _____ signals the beginning and end of a formatting command.
ANSWER: delimiter, delimiters

18. All of the data stored and transmitted by digital devices is encoded as bits.

a. True
b. False

ANSWER: True

19. A group of eight bits is called a _____.
    a. byte
    b. megabit
    c. binary
    d. numeric data

ANSWER: a

20. Transmission speeds are expressed in _____, whereas storage space is expressed in _____.
    a. bits, bytes
    b. bytes, bits
    c. binary, numeric
    d. none of the above

ANSWER: a

21. Data _____ refers to any technique that recodes the data in a file so that it contains fewer bits.

ANSWER: compression

22. Lossy compression provides a way to compress data and reconstitute it into its original state.
    a. True
    b. False

ANSWER: False

23. Lossy compression throws away some of the original data during the compression process.
    a. True
    b. False

ANSWER: True

24. Compressed files usually have _____ at the end of the file name.
    a. .exe
    b. .zip
    c. .txt
    d. none of the above

ANSWER: b

25. _____ is music, speech, and other sounds represented in binary format for use in digital devices.
    a. MIDI
    b. speech recognition
    c. speech synthesis
    d. Digital audio

ANSWER: d

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26. To digitally record sound, _____ of a sound wave are collected at periodic intervals and stored as numeric data in an audio file.
ANSWER: samples, sample, sampling

27. Sampling _____ refers to the number of times per second that a sound is measured during the recording process.
    a. rate
    b. compression
    c. depth
    d. sound
ANSWER: a

28. To conserve space, applications that require high-quality sound use low sampling rates.
    a. True
    b. False
ANSWER: False

29. Regardless of sampling rate, digital audio file size can be reduced using audio compression techniques.
    a. True
    b. False
ANSWER: True

30. Most music for portable media players is stored in _____ audio file formats.
    a. uncompressed
    b. compressed
    c. lossless
    d. zipped
ANSWER: b

31. Digital audio is stored in a variety of file formats, including _____.
    a. WMA
    b. WAV
    c. MP3
    d. all of the above
ANSWER: d

32. Which of the following is NOT a format that is used for digital audio?
    a. MP3
    b. DOC
    c. WAV
    d. Ogg
ANSWER: b

33. A(n) _____ is software that works in conjunction with your computer's browser to manage and play audio that you are accessing from a Web page.
ANSWER: audio plugin

34. The technical term for ripping music tracks is digital audio extraction.
    a. True
    b. False
ANSWER: True

35. _____ specifies a standard way to store music data for synthesizers and computers.
ANSWER: MIDI

36. MIDI files are less compact than digital audio files.
    a. True
    b. False
ANSWER: False

37. One of the main disadvantages of MIDI is that it cannot produce vocals.
    a. True
    b. False
ANSWER: True

38. _____ enables people to control software with spoken commands, as well as dictate text into a word processing document.
    a. MIDI
    b. Speech synthesis
    c. Speech recognition
    d. Phonemes
ANSWER: c

39. _____ is the process by which machines produce sound that resembles spoken words.
ANSWER: Speech synthesis

40. Text-to-speech software analyzes the words in a section of text, finds corresponding phonemes, and combines them into sentences for output.
    a. True
    b. False
ANSWER: True

41. Speech recognition software analyzes the sounds of your voice and converts each word into groups of _____.
ANSWER: phonemes, phoneme

42. A bitmap graphic is composed of a grid of tiny rectangular cells.
    a. True
    b. False
ANSWER: True

43. Digital photographs are stored as bitmap files.
    a. True

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    b. False

ANSWER: True

44. In a digital camera, a CCD's _____ correspond to pixels.

ANSWER: photosites, photosite

45. Which of the following is NOT a type of bitmap format?

    a. TIFF

    b. RAW

    c. PNG

    d. ZIP

ANSWER: d

46. Bitmap images are formed by a grid of _____.

ANSWER: pixels

47. Today's color display devices represent color using the _____ color model.

    a. RGB

    b. PNG

    c. BMP

    d. none of the above

ANSWER: a

48. The number of colors available in a graphic is referred to as color _____.

    a. depth

    b. range

    c. RGB

    d. PNG

ANSWER: a

49. 8-bit color depth is also called True Color.

    a. True

    b. False

ANSWER: False

50. The dimensions of the grid that forms a bitmap graphic are referred to as image _____.

ANSWER: resolution

51. Bitmap graphics are resolution dependent because each element is a discrete pixel.

    a. True

    b. False

ANSWER: True

52. An undesirable jagged appearance of a graphics image is referred to as _____.

ANSWER: pixelation

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53. Most graphics software uses a process called pixel _____ to create new pixels by averaging the colors of nearby pixels.
    a. polarization
    b. interpolation
    c. compression
    d. resolution
ANSWER: b

54. Image _____ refers to any technique that recodes the data in an image file so that it contains fewer bits.
ANSWER: compression

55. TIFF, PNG, and GIF graphics formats offer lossy compression.
    a. True
    b. False
ANSWER: False

56. JPEG files are compressed using lossy compression.
    a. True
    b. False
ANSWER: True

57. Lossy compression techniques discard some data from an image to shrink its file size.
    a. True
    b. False
ANSWER: True

58. Bitmap graphics are coded as a series of bits. Each bit represents the color of one _____.
ANSWER: pixel

59. Image editors provide an image _____ that can be used to adjust the brightness values for various ranges of dark, mid-range, or light pixels
ANSWER: histogram

60. In the context of bitmap graphics editing, what technique employs algorithms that pull pixels from one area of an image and then apply them to another area?
    a. inpainting
    b. cloning
    c. noise reduction
    d. image enhancement
ANSWER: b

61. A clipping _____ essentially cuts an object out of an image and knocks out the background to make it transparent.
ANSWER: path

62. What is the term used to describes altering the pixel colors where the edges of the object and the background meet, so

that the object appears to merge with the background?

    a. Alpha blending

    b. Clipping path

    c. Cloning

    d. Inpainting

ANSWER: a

63. A vector graphic consists of a set of instructions for creating a picture.

    a. True

    b. False

ANSWER: True

64. Instead of storing the color value for each pixel, a vector graphics file contains instructions that a computer uses to create the shape, size, position, and color for each object in an image.

    a. True

    b. False

ANSWER: True

65. When you change the size of a(n) _____ graphic, the objects change proportionally and maintain their smooth edges.

ANSWER: vector

66. Vector graphics usually require more storage space than bitmaps.

    a. True

    b. False

ANSWER: False

67. Which of the following options are well suited for using vector graphics?

    a. line art

    b. logos

    c. diagrams

    d. all of the above

ANSWER: d

68. All bitmap graphics are photos.

    a. True

    b. False

ANSWER: False

69. Which of the following file extensions is NOT a vector graphic?

    a. .svg

    b. .eps

    c. .tif

    d. .ai

ANSWER: c

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70. Both scanners and digital cameras produce vector graphics.
    a. True
    b. False
ANSWER: False

71. What is another term for vector graphics software?
    a. Drawing software
    b. Photo editing software
    c. Digital compositing
    d. All of the above
ANSWER: a

72. A vector graphic can be converted into a bitmap graphic through a process called _____.
ANSWER: rasterizing, rasterization

73. After a vector graphic is converted to a bitmap, the resulting graphic no longer has the qualities of a vector graphic.
    a. True
    b. False
ANSWER: True

74. 3-D graphics are based on vectors stored as a set of instructions describing the coordinates for lines and shapes in a three-dimensional space. What do these vectors form?
    a. a bitmap graphic
    b. a zipped file
    c. a wireframe
    d. all of the above
ANSWER: c

75. The process of covering a wireframe with surface color and texture is called _____.
ANSWER: rendering, render

76. Which of the following is the technique for adding light and shadows to a 3-D image?
    a. rendering
    b. ray tracing
    c. wireframe
    d. rasterize
ANSWER: b

77. 3-D graphics can be animated.
    a. True
    b. False
ANSWER: True

78. Which of the following tools would be found in 3-D graphics software?

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    a. rendering tools

    b. ray tracing tools

    c. surface texture tools

    d. all of the above

ANSWER: d

79. Digital video uses bits to store color and brightness data for each video frame.

    a. True

    b. False

ANSWER: True

80. Analog footage can be digitized using video _____ equipment.

ANSWER: capture

81. Digital _____ captures moving images as bits, rather than on film.

ANSWER: cinematography

82. Digital video is a core technology for which of the following?

    a. digital television

    b. videoconferencing systems

    c. video messaging

    d. all of the above

ANSWER: d

83. Which of the following is NOT a factor in the quality of digital video?

    a. frame rate and resolution

    b. color and bit depth

    c. compression technique

    d. memory technology in your camera

ANSWER: d

84. In digital video, each bitmap image is referred to as a(n) _____.

ANSWER: frame

85. The number of frames that are displayed per second is measured in _____.

    a. compression

    b. fps

    c. color depth

    d. bps

ANSWER: b

86. Digital videos look sharpest when they are displayed at a resolution that is larger than the frame size.

    a. True

    b. False

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ANSWER: False

87. Video resolutions can be expressed as width x height.
    a. True
    b. False
ANSWER: True

88. Today's widescreen devices, such as laptops and smartphones, are designed for the 16:9 _____.
    a. resolution
    b. aspect ratio
    c. frame rate
    d. all of the above
ANSWER: b

89. When 4:3 videos are displayed in a widescreen player, they are bordered by the black bars of a(n) _____.
ANSWER: letterbox

90. In digital video, as long as the proportion of horizontal and vertical pixels remains the same, the aspect ratio is consistent.
    a. True
    b. False
ANSWER: True

91. _____ is the number of bits that are processed during a specific unit of time, usually during one second.
    a. Bit rate
    b. Bit depth
    c. Color depth
    d. none of the above
ANSWER: a

92. Bit rate can be scaled down by reducing the resolution and applying _____ techniques.
ANSWER: compression

93. In digital video, a lower resolution reduces the bit rate.
    a. True
    b. False
ANSWER: True

94. _____ compression can be applied to each frame of a video.
ANSWER: Intraframe

95. _____ compression stores only the pixels that change color from one frame to the next.
ANSWER: Interframe

96. Video compression can be expressed as a compression _____.

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ANSWER: ratio

97. A(n) _____ is the software that compresses a video stream when a video is stored, and decompresses the file when the video is played.
    a. compression
    b. codec
    c. bitmap
    d. resolution
ANSWER: b

98. Video files are stored in _____ formats that hold the compressed video stream and an audio stream.
ANSWER: container

99. Which of the following is NOT a type of digital video container file?
    a. MP4
    b. AVI
    c. VOB
    d. PNG
ANSWER: d

100. Transcoding digital videos does not cause a loss of quality.
    a. True
    b. False
ANSWER: False