

Basic Audio Recording Techniques

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Chapter Study Questions

Read Chapter 1 in the Basic Audio Recording Techniques textbook, and watch the videos in the Chapter 1 folder on the accompanying DVD. Then, answer these questions by circling the best answer.

1. Why is it important for recording students to listen to classical music?
 - a) Everybody should be familiar with the 3 B's: Bach, Beethoven, and Brahms.
 - b) To be a well-rounded person.
 - c) The music is usually public domain, so you can use it for your project without paying a licensing fee.
 - d) To be able to identify the different instruments of the orchestra by hearing them.

2. Who would make a good recording engineer?
 - a) A beautician
 - b) An electrical engineer
 - c) A musicians
 - d) A business person

3. Mixing music means addressing every instrument for balance, texture, and volume.
 - a) True
 - b) False

4. If you can't make a session, what are you expected to do?
 - a) Provide someone to cover your position.
 - b) Call to let them know.
 - c) Work extra hours for free.
 - d) Make coffee for a week.

5. This class will cover SMPTE time code.
 - a) True
 - b) False

6. This class includes installation ideas for home studios.
 - a) True
 - b) False

7. What is the main qualification of a producer?
 - a) They know what they like when they hear it.
 - b) They can do every job in a restaurant.
 - c) They know someone at CBS Records.
 - d) They're capable of doing and overseeing each job in the process.

8. According to the video "24 Hour Story", how much time do we spend getting from one place to another in a typical day?
 - a) 45 minutes
 - b) 1 hour
 - c) 2 hours
 - d) 3 hours

9. When is it worth it to book your band in a pay-to-play showcase room?
 - a) When your band has learned at least 20 songs.
 - b) When all of your fans want you to play.
 - c) When you learn a big artist sometimes goes to that club.
 - d) When you have at least two industry professionals who've expressed an interest in your project, and have committed to being at the performance.

10. What does a studio owner look for when filling an entry-level position?
 - a) Someone with orchestra mixing experience.
 - b) Someone with the right attitude, willing to do anything to learn.
 - c) Someone with front-office experience and a good phone manner.
 - d) A recording school graduate.

11. What does being a team member mean?
 - a) That you are not replaceable.
 - b) That your part is not necessary to the outcome.
 - c) That your position must be covered you or someone you get who can do the job.
 - d) That you aren't responsible for the outcome.

12. What does getting financing for a project primarily depend upon?
 - a) An artist's name and reputation.
 - b) How much you need and why, when will you pay it back, and how much profit will the financier get.
 - c) How much money will be spent on musicians.
 - d) How much you charge.

13. Why get an education in your craft?
 - a) You need a degree to survive.
 - b) You'll be able to tell those you work with how to do their job.
 - c) People with specialized knowledge receive better treatment.
 - d) Once you learn the fundamentals, you can adapt what you know to any style that comes along.

14. Why should a recording student include a classical, a jazz, a rock, and a top-hits radio station among their car radio favorites?
 - a) It's good way to get musical ideas from different styles.
 - b) You never know what someone might want to listen to when they get into your car.
 - c) To compare the way instruments are mixed in different genres.
 - d) To be able to speak intelligently about what they are learning.

15. If you're running a recording session, and something technical goes wrong, you should
 - a) call someone to solve the problem.
 - b) tell your client about the problem immediately.
 - c) make believe it didn't happen.
 - d) know if you can patch around it, or have to take a short break to check it out further.

Read Chapter 2 in the Basic Audio Recording Techniques textbook, and watch the videos in the Chapter 2 folder on the accompanying DVD. Then, answer these questions by circling the best answer.

1. A quickly vibrating string will have a lower pitch than a slowly vibrating one.
 - a) True
 - b) False

2. To find the frequency of an overtone, multiply the fundamental frequency by the partial number.
 - a) True
 - b) False

3. When a frequency of a sound matches the resonant frequency of an object, what happens to the object?
 - a) It vibrates at the same rate as the sound's frequency.
 - b) It vibrates at twice the rate of the sound's frequency.
 - c) It vibrates at half the rate of the sound's frequency.
 - d) It does not vibrate.

4. When two frequencies are in phase, the volume does not change.
 - a) True
 - b) False

5. Frequencies completely cancel each other out when they are _____ out of phase.
 - a) 90°
 - b) 45°
 - c) 180°
 - d) 100°

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6. The speed of sound in air, versus the speed of electricity over wires, is what creates a phase problem at the mixing console.
 - a) True
 - b) False

7. The lowest note on a piano is an A, which vibrates at a rate of 27.5cps. What rate does the next higher A vibrate at?
 - a) 440cps
 - b) 82.5cps
 - c) 110cps
 - d) 55cps

8. You can tune guitars using beat frequencies, but not pianos.
 - a) True
 - b) False

9. The distance between each partial is _____ the fundamental pitch.
 - a) one half
 - b) two times
 - c) equal to
 - d) three times

10. A440 is the standard tuning pitch for all musical instruments in America, but not in Europe.
 - a) True
 - b) False

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11. What happens when there are more overtones in a sound?
 - a) The pitch gets higher.
 - b) The volume gets louder.
 - c) The waveforms cancel.
 - d) The texture becomes fuller.

12. The formula for the overtones created by a fundamental vibration is
 - a) the same for all frequencies.
 - b) different depending on the instrument.
 - c) two times the frequency plus the partial equals the overtone.
 - d) different for music than it is for non-musical sound.

13. Which scale is used to measure the level of a sound's volume?
 - a) Decibels
 - b) Inches
 - c) Ohms
 - d) Voltage

14. Equalization is used to adjust the _____ of a sound.
 - a) pitch
 - b) duration
 - c) overtone relationships
 - d) volume

15. The resonant frequency of an object is determined by
 - a) it's color.
 - b) it's temperature.
 - c) it's mass.
 - d) how hard it is struck.

Read Chapter 3 in the Basic Audio Recording Techniques textbook, and watch the videos in the Chapter 3 folder on the accompanying DVD. Then, answer these questions by circling the best answer.

1. What's the most important part about drawing a musician placement chart?
 - a) That the drawing feels right.
 - b) That the musicians can hear each other.
 - c) That the musicians are all facing the control room.
 - d) That the section leaders can see each member of the section.

2. What's most important when setting up musicians with a conductor?
 - a) That the chairs are in a half-circle.
 - b) That all players can see the conductor.
 - c) That the section leaders can see each member of the section.
 - d) That just the section leaders can see the conductor.

3. Who draws the setup sheet?
 - a) The client
 - b) The producer
 - c) The 1st engineer
 - d) The conductor

4. What happens to the paperwork when the session is over?
 - a) It is thrown away.
 - b) It is kept for a week.
 - c) It is given to the client.
 - d) It is filed for future reference.

5. A bass player should be placed next to the drums, on the opposite side from the hi-hat.
 - a) True.
 - b) False.

6. Why is there better isolation when musicians face each other while recording?
 - a) Because cardioid mics don't hear much of what happens behind them.
 - b) Because musicians hear each other better, and so play softer, eliminating leakage.
 - c) Because omni mics cancel out the leakage.
 - d) Because sound waves cancel each other out when they meet in the middle.

7. What is a tall baffle with a Plexiglas window above a solid panel good for isolating?
 - a) Synths and trumpets
 - b) Saxophones and bass
 - c) Percussion and strings
 - d) Pianos and trombones

8. A snake will bring the mic panel closer to the instruments.
 - a) True.
 - b) False.

9. Which is the best way to record a grand piano when it is the featured instrument in an ensemble?
 - a) One mic, directly under the soundboard.
 - b) Two dynamic mics on either side of the keys.
 - c) Two condenser mics above the piano, one pointed at the high strings, and the other at the low strings.
 - d) Two ribbon mics, 15' away from the piano where the sound is focused.

10. A baffle is used to shield a microphone from unwanted radio frequencies.
 - a) True.
 - b) False.

11. As long as they can see each other, it doesn't matter where you put the bass and the drums.

- a) True.
- b) False.

12. When micing an instrument, what's the best thing to do when you're not sure where to put a microphone?

- a) Place it high and in front of the instrument.
- b) Listen to where the sound is coming from an instrument.
- c) Place it near the musician's ears.
- d) Place the mic directly overhead.

13. If string music is written *divisi*, it means a single piece of music has what?

- a) One part, for one musician
- b) One part, for two musicians
- c) Two parts, for one musician
- d) Two parts, for two musicians

14. Why is one side of a baffle typically covered in fabric, while the other side is paneled in wood?

- a) The different tensile strengths make it stronger.
- b) Singers like to be able to change the mood.
- c) The fabric side is for children performers.
- d) Each side reacts to sound differently.

15. A direct box lowers an electric guitar's line level to a mixing console's mic level.

- a) True
- b) False

Read Chapter 4 in the Basic Audio Recording Techniques textbook, and watch the videos in the Chapter 4 folder on the accompanying DVD. Then, answer these questions by circling the best answer.

1. What is wired to the patch bay?
 - a) The ins and outs of the sound modules.
 - b) The ins and outs of the mixing console.
 - c) The ins and outs of the effects units.
 - d) All of the above.

2. What does a take sheet organize?
 - a) Who took what from where.
 - b) The song order and all takes.
 - c) Which instruments go on which tracks.
 - d) The lunch order.

3. It is possible to deal with an individual instrument within a stereo recording of an orchestra.
 - a) True
 - b) False

4. You can hear the best stereo image from a pair of speakers
 - a) within the audio range.
 - b) from every direction.
 - c) at the sound point.
 - d) in the sweet spot.

5. Indicate where you want the instruments to show up on your mixing console on the _____.
 - a) set-up sheet
 - b) track sheet
 - c) take sheet
 - d) studio work order

6. The inputs are ways to get in the mixing console, but to get out, you take a buss.
 - a) True
 - b) False

7. Whether on tape or in a software program, a track is
 - a) used to keep the project on track and on time.
 - b) used to keep track of the length of each take.
 - c) used to record and store one or more sound sources.
 - d) the term used to describe a song.

8. What is the process of blending the recorded tracks into a stereo image called?
 - a) Mixing
 - b) Blending
 - c) Editing
 - d) Tracking

9. Overdubs are recorded after the basic tracks.
 - a) True
 - b) False

10. To get a stereo mix of recorded tracks, a multi-track machine must be connected to
 - a) a stereo.
 - b) an amplifier.
 - c) a mixer.
 - d) a mult.

11. A block diagram of your studio won't indicate which patch points are normalled.

- a) True
- b) False

12. Typically, buss outputs correspond with multi-track inputs.

- a) True
- b) False

13. An auxiliary buss can't be used for a headset mix for musicians.

- a) True
- b) False

14. The ring-out in a room is

- a) responsible for the quality of the sound.
- b) the reason the string section sounds so good.
- c) usually faded out.
- d) the decaying sounds of the last notes played at the end of a song.

15. An eight-track mixing console must have eight buss outs.

- a) True
- b) False

Read Chapter 5 in the Basic Audio Recording Techniques textbook, and watch the videos in the Chapter 5 folder on the accompanying DVD. Then, answer these questions by circling the best answer.

1. The patchbay is an extension of the backs of all the equipment in a studio.
 - a) True
 - b) False

2. Usually, the outputs on a two-row patch bay are on the
 - a) bottom row.
 - b) left side.
 - c) right side.
 - d) top row.

3. The standard width of a rack space for effects units is _____ inches.
 - a) 15
 - b) 9
 - c) 19
 - d) 16

4. A patchbay must be easily accessible and centrally located for the benefit of the
 - a) client.
 - b) producer.
 - c) artist.
 - d) engineer.

5. Basically, a recording studio is in the business of selling
 - a) great recordings.
 - b) copies of the finished product.
 - c) time.
 - d) dreams.

6. An unbalanced signal is better than a balanced signal.
 - a) True
 - b) False

7. Normalizing will lower the amount of patch cables needed to operate a patchbay.
 - a) True
 - b) False

8. A longer, unbalanced guitar chord will give you a better
 - a) signal-to-noise ratio.
 - b) antenna.
 - c) polarity.
 - d) ground.

9. When a balanced line is wired to a balanced plug, the positive wire is connected to the _____, the negative wire to the _____, and the ground wire to the _____.
 - a) ring, sleeve, tip
 - b) tip, ring, sleeve
 - c) sleeve, tip, ring
 - d) ring, tip, sleeve

10. Wiring signal duplication on a patchbay is the same thing as the wiring a mult.
 - a) True
 - b) False

11. You can put one Output into many Inputs, but one Input will only accept one Output at a time.
- a) True
 - b) False
12. When a patch cable is plugged into an input on the patch bay, the normal is
- a) unchanged.
 - b) broken.
 - c) increased.
 - d) repaired.
13. A mult will
- a) change the phase of a signal.
 - b) lower the volume of a signal.
 - c) duplicate a signal.
 - d) alter the timbre of a signal.
14. The reason a balanced line does not have RF is because
- a) the cables are longer.
 - b) their wiring cancels it out.
 - c) the voltage is lower.
 - d) they don't need it.
15. The buss outputs from the mixing console are normalised to the multitrack inputs.
- a) True.
 - b) False.

Read Chapter 6 in the Basic Audio Recording Techniques textbook, and watch the videos in the Chapter 6 folder on the accompanying DVD. Then, answer these questions by circling the best answer.

1. Most outboard gear will fit in a standard 18" equipment rack.
 - a) True
 - b) False

2. A gate can be set to
 - a) change the volume.
 - b) alter the pitch.
 - c) open and close.
 - d) delay a signal.

3. There really is no reason to have an understanding of analog tape recorders in this day of computer-based recording technology.
 - a) True
 - b) False

4. Hexadecimal is a _____ number system.
 - a) base-16
 - b) base-2
 - c) base-10
 - d) base-60

5. An AD/DA converter will translate analog signals into digital signals.
 - a) True
 - b) False

6. Before beginning a project on a 24-track analog tape recorder, it must be
 - a) warmed up.
 - b) patched into the mixer.
 - c) aligned.
 - d) biased.

7. A change in temperature will affect the _____ of a piano.
 - a) volume
 - b) tuning
 - c) action
 - d) weight

8. Aligning an analog tape recorder means adjusting the
 - a) frequency response.
 - b) tape speed.
 - c) bias.
 - d) tape tension bar.

9. Music CDs use a sample rate that can capture _____ samples per second of a 10kHz tone.
 - a) exactly 2
 - b) about 4
 - c) almost 10
 - d) 44.1k

10. The graphic equalizer on a PA system is used to
 - a) get a better vocal sound.
 - b) EQ out unwanted buzz sounds.
 - c) match the PA to the room it's in.
 - d) EQ the lead instrument or vocal.

11. When we record to a digital tape recorder, the information is stored on a
- CD.
 - hard drive.
 - tape.
 - DVD.
12. When we recording to digital audio system, like Pro Tools, the information is stored on a
- CD.
 - hard drive.
 - tape.
 - DVD.
13. On analog tape recorders, tape spools off of the feed reel on the left, then passes over the _____ head, followed by the _____ head, and finally the _____ head, before being collected on the take-up reel on the right.
- playback, erase, record
 - record, playback, erase
 - erase, playback, record
 - erase, record, playback
14. Recording digitally means converting an electrical signal into
- sine waves.
 - magnetic flux.
 - sound.
 - numbers.
15. When transferring a 24-track tape into an 8-track digital audio system, the biggest problem will be
- the volume level.
 - the frequency response.
 - lining up the tracks.
 - the song length.

Read Chapter 7 in the Basic Audio Recording Techniques textbook, and watch the videos in the Chapter 7 folder on the accompanying DVD. Then, answer these questions by circling the best answer.

1. The purpose of a microphone is to convert moving air molecules into
 - a) sound.
 - b) mechanical energy.
 - c) acoustic energy.
 - d) electrical energy.

2. A playback head transduces magnetic flux into
 - a) sound.
 - b) mechanical energy.
 - c) acoustic energy.
 - d) electrical energy.

3. Impedance is the amount of _____ in an electrical conductor.
 - a) electrons
 - b) volts
 - c) resistance
 - d) amps

4. When using unbalanced, high-impedance mics, the longer the mic cable the better.
 - a) True
 - b) False

5. Coming out of a power amplifier, the signal is line level.
 - a) True
 - b) False

6. Speaker wire should be _____ gauge.
 - a) 18
 - b) 14
 - c) 12
 - d) 16

7. A good mic for the trumpet is the _____ mic.
 - a) carbon
 - b) crystal
 - c) ceramic
 - d) ribbon

8. Strings don't put out a lot of SPL, so a condenser mic won't need a
 - a) mic cable.
 - b) low end roll off.
 - c) pad.
 - d) wind screen.

9. A crystal or ceramic mic gives an almost perfect reproduction of sound.
 - a)
 - b) True
 - c) False

10. The amount of power needed to power a standard condenser mic is _____ volts.
 - a) 64
 - b) 16
 - c) 48
 - d) 12

11. A transducer is used to convert acoustic energy into electrical energy.
 - a) True
 - b) False

12. An analog record head converts electricity into
 - a) magnetic flux.
 - b) mechanical energy.
 - c) acoustic energy.
 - d) air molecules.

13. An omnidirectional mic receives acoustic signals from
 - a) just the front.
 - b) just the back.
 - c) just the sides.
 - d) all directions.

14. When recording more than one page of dialog,
 - a) leave the the page turning to the artist.
 - b) spread out the pages and stop recording to rearrange them.
 - c) remind the artist to bring a copy for you.
 - d) don't worry about the sound of the page turns, because you can easily edit them out.

15. Phantom power is for _____ mics.
 - a) dynamic
 - b) ribbon
 - c) PZM
 - d) condenser

Read Chapter 8 in the Basic Audio Recording Techniques textbook, and watch the videos in the Chapter 8 folder on the accompanying DVD. Then, answer these questions by circling the best answer.

1. There is no way to change the bell curve of the sound in your mixer.
 - a) True
 - b) False

2. On the frequency scale, pitches from 20Hz to 150Hz are frequencies are felt more than heard.
 - a) True
 - b) False

3. From _____ to 2kHz is probably the most important bandwidth.
 - a) 1kHz
 - b) 500Hz
 - c) 300Hz
 - d) 600Hz

4. The bass strings on an acoustic guitar resonate in the range of
 - a) 70Hz to 120Hz.
 - b) 120Hz to 300Hz.
 - c) 20Hz to 150Hz.
 - d) 150Hz to 300Hz.

5. The extreme lows of an electric bass resonate at
 - a) 40Hz to 120Hz.
 - b) 27.5Hz to 150Hz.
 - c) 60Hz to 90Hz.
 - d) 50Hz to 120Hz.

6. You can find a good, full sound for the snare drum at around
 - a) 50Hz.
 - b) 250Hz.
 - c) 100Hz.
 - d) 2kHz.

7. A bell curve represents the affect equalization has on the _____ of the frequency selected.
 - a) overtones
 - b) fundamental
 - c) volume
 - d) neighbors

8. On a graphic equalizer, more faders means more frequencies can be affected.
 - a) True
 - b) False

9. A passive equalizer raises the volume of selected frequencies by _____ other frequencies.
 - a) boosting
 - b) lowering
 - c) eliminating
 - d) doubling

10. A high frequency shelf EQ typically starts affecting frequencies at
 - a) 7.5kHz.
 - b) 2.5kHz.
 - c) 5kHz.
 - d) 10kHz.

11. A notch filter allows you to select and affect a _____ frequency band.
 - a) wide
 - b) general
 - c) moving
 - d) narrow

12. On a parametric equalizer, the _____ of a frequency bandwidth is adjustable.
 - a) pitch
 - b) cue
 - c) duration
 - d) volume

13. The acoustics of a typical bedroom closet will alter the
 - a) low frequencies.
 - b) volume.
 - c) pitch.
 - d) high frequencies.

14. The resonant frequency of a two-foot thick cement wall is _____ to be in sympathy with a note from a bass.
 - a) too high
 - b) too loud
 - c) too low
 - d) too uneven

15. If a frequency vibrates something in the room you're listening in, the combined vibrations will
 - a) be softer.
 - b) change frequencies.
 - c) be louder.
 - d) change in pitch.

Read Chapter 9 in the Basic Audio Recording Techniques textbook, and watch the videos in the Chapter 9 folder on the accompanying DVD. Then, answer these questions by circling the best answer.

1. When it is impossible to distinguish between individual echos, it's called
 - a) delay.
 - b) decay.
 - c) echo.
 - d) reverberation.

2. The distance between the walls in a room will not affect the reverberation rate.
 - a) True
 - b) False

3. When we close-mic an instrument, we take the _____ out of the sound.
 - a) warmth
 - b) timbre
 - c) room
 - d) energy

4. The further away from a wall the sound source is, the _____ the delay.
 - a) shorter
 - b) longer
 - c) louder
 - d) softer

5. When working on sound effects for a movie, it's useful to have
 - a) coffee for the client.
 - b) multiple indoor and outdoor ambiences.
 - c) a big screen to get the full impact of the film.
 - d) the song rights.

6. When recording the original tracks of a project, it is a good idea to record the studio reverb on the same track as the instrument.

- a) True
- b) False

7. Decay is the progressive diminishing of sound.

- a) True
- b) False

8. Room tone gives the impression that we are

- a) a part of the performance.
- b) in an acoustic space.
- c) actually there in the studio.
- d) watching a movie.

9. When mics are about four feet away from a sound source, we will hear _____ of the room.

- a) all
- b) none
- c) more
- d) less

10. If there is no noise at all in the room you are in, you are hearing

- a) nothing.
- b) reverb.
- c) occasional static.
- d) room tone.

11. When do we need reverb?
 - a) When we use two or more mics on an instrument.
 - b) When we close mic an instrument.
 - c) When one instrument can be heard in another instrument's mic.
 - d) When the microphones hear too much room tone.

12. Delay is
 - a) the progressive diminishing of sound.
 - b) many echos close together.
 - c) the opposite of reverb.
 - d) when you can hear one or more individual echos.

13. In the analog years, a tape recorder was used as a delay device.
 - a) True
 - b) False

14. It is never desirable to use reverb simply as an effect.
 - a) True
 - b) False

15. There can be many echoes from a sound, depending on how many times it is reflected back to the listener.
 - a) True
 - b) False

Read Chapter 10 in the Basic Audio Recording Techniques textbook, and watch the videos in the Chapter 10 folder on the accompanying DVD. Then, answer these questions by circling the best answer.

1. An electronic circuit has the same dynamic range as the human ear.
 - a) True
 - b) False

2. One of the flaws of electronically amplified sound is that there is _____ at the bottom of the volume range.
 - a) clipping
 - b) bass boost
 - c) noise
 - d) distortion

3. Overall signal level must be controlled to avoid _____ when the volume peaks.
 - a) phasing
 - b) distortion
 - c) treble boost
 - d) attenuation

4. _____ is used to catch volume peaks.
 - a) An equalizer
 - b) An expander
 - c) A limiter
 - d) A flanger

5. The point at which a compressor starts working is called the _____.
 - a) threshold
 - b) breaking point
 - c) cross over
 - d) unity gain

6. The difference between compressing and limiting is really a matter of how much.
 - a) True
 - b) False

7. Compression affects the _____ of an audio signal.
 - a) duration
 - b) pitch range
 - c) dynamic range
 - d) frequency range

8. If you don't have a limiter, riding the volume knob is just as good.
 - a) True
 - b) False

9. One advantage of limiting volume peaks is
 - a) it sounds fuller.
 - b) the overtones are excited.
 - c) the bass gets louder.
 - d) the overall level can be raised.

10. When we limit a kick drum, the goal is to
 - a) add more bass to the sound.
 - b) delay the attack.
 - c) make the kick as loud as the snare.
 - d) make every attack the same volume.

11. Popular music radio stations compress their signal so they can boost the level as high as possible without distorting.
- True
 - False
12. Dynamic range means
- the loudest part of the program.
 - the softest part of the program.
 - the distance between the softest and the loudest part of the program.
 - the most interesting parts of the program.
13. One of the instruments we usually put a limiter on is the
- saxophone.
 - bass.
 - violin.
 - clarinet.
14. When you hear the limiter level return to it's normal level, it is called
- attenuation.
 - return.
 - unity gain.
 - pumping.
15. When you are limiting, you are taking away all the dynamic range.
- True
 - False

Read Chapter 11 in the Basic Audio Recording Techniques textbook, and watch the videos in the Chapter 11 folder on the accompanying DVD. Then, answer these questions by circling the best answer.

1. We use SMPTE time code to enhance vocals.
 - a) True
 - b) False

2. A metronome is based on 24 frames a second.
 - a) True
 - b) False

3. Click Tempo is a base-8 number system.
 - a) True
 - b) False

4. 35mm movie film travels at a standard rate of _____ frames per second.
 - a) 16
 - b) 18
 - c) 24
 - d) 60

5. 60 on a metronome is the same as a _____ frame click.
 - a) 12
 - b) 30
 - c) 10
 - d) 24

6. A typical calculator uses the base-10 number system, so you can't use one to find click tempos, because click is base-24.
- True
 - False
7. Once the film composer has timed a number of beats in a scene, the formula for finding the click tempo is
- $(24 \times \text{Time}) \div \text{Click Tempo}$.
 - $(60 \times \text{Beats}) \div \text{Time}$.
 - $(60 \times \text{Beats}) \div \text{Metronome}$.
 - $(24 \times \text{Time}) \div \text{Beats}$.
8. You can add times together on a typical calculator by simply using zeros in place of colons.
- True
 - False
9. The two types of SMPTE time code are
- OTC and RPG.
 - TC and MIDI.
 - VITC and LTC.
 - WAN and LAN.
10. The frame rate for NTSC color video is
- 29.97 frames per second.
 - 25 frames per second.
 - 24 frames per second.
 - 30 frames per second.

Chapter 11 • Study Questions

11. SMPTE is also used on a film or television set to mark time of day.
 - a) True
 - b) False

12. The binary number system uses _____ different digits.
 - a) 2
 - b) 60
 - c) 16
 - d) 8

13. A metronome uses a _____ number system.
 - a) base-2
 - b) base-60
 - c) base-16
 - d) base-8

14. Basically, a computer knows _____.
 - a) everything
 - b) only about the people who use it
 - c) two things: on or off
 - d) nothing

15. The time code format for audio is _____.
 - a) LTC
 - b) MIDI
 - c) VITC
 - d) LAN

Read Chapter 12 in the Basic Audio Recording Techniques textbook, and watch the videos in the Chapter 12 folder on the accompanying DVD. Then, answer these questions by circling the best answer.

1. With simple, inexpensive steps you can completely sound-proof any room.
 - a) True
 - b) False

2. If your room has a wood floor with an empty space below it, the _____ frequencies will cause the floor to vibrate.
 - a) high-end
 - b) low-end
 - c) louder
 - d) softer

3. A typical drop ceiling makes an excellent ceiling for your sound studio.
 - a) True
 - b) False

4. The standard distance, center to center, between 2"x4" studs in a wall is
 - a) 12 inches.
 - b) 14 inches.
 - c) 24 inches.
 - d) 16 inches.

5. In the average bedroom, ceiling and walls are already insulated.
 - a) True
 - b) False

6. In Plan #2, the first task is to
 - a) add a layer of 5/8th drywall.
 - b) add rubber strips to each stud.
 - c) mark the floor and ceiling at each stud center.
 - d) add 1/2" sound board layer.

7. The piece of wood that goes between the studs about a half-way up is a
 - a) separator.
 - b) stud brace.
 - c) fire block.
 - d) wood block.

8. Each stud should be identified and marked on the _____ for future location.
 - a) end of the stud
 - b) edge of the stud
 - c) drywall
 - d) floor

9. Before you put on the top 5/8" layer of drywall, what can you put on the soundboard to help contain the bass frequencies?
 - a) Paint.
 - b) Water.
 - c) Liquid nail.
 - d) White glue.

10. After having placed rubber strips on each stud, cover the wall with
 - a) plywood.
 - b) 5/8" Drywall.
 - c) 1/2" Drywall
 - d) 1/2" sound board.

11. The window between the control room and the performance room has 2 panes of glass, but one is thicker than the other.
- a) True.
 - b) False.
12. When converting a garage into a studio, the first thing to do is
- a) put rubber on the studs.
 - b) build the sound door.
 - c) insulate the walls and ceiling.
 - d) turn the garage door into a wall.
13. The two solid-core doors of the sound door are the exact same size.
- a) True
 - b) False
14. The wood used to surface a semi-absorbent wall should be
- a) smoothly planed.
 - b) painted.
 - c) porous.
 - d) hard wood.
15. The new door in your bedroom should be a _____ door.
- a) metal
 - b) fiberglass
 - c) solid core
 - d) hollow core.