

MULTIPLE CHOICE

ARTIFACTS - PRACTICE SET - ANSWER KEY

PROPOSED FOR REVIEW - questions are the author's verbatim Q&A; distractors are auto-selected from other answers in the same bank and must be checked by a subject-matter reviewer (a distractor could coincidentally be correct). Not authoritative assessment content.

1. In which medium is comet tail artifact more commonly seen?

- A. Medium with no attenuation
- B. High propagation speed medium**
- C. Medium with no reflectors
- D. Low propagation speed medium

2. What is a form of noise seen with Doppler imaging?

- A. Enhancement
- B. Focal banding
- C. Clutter**
- D. Edge shadow

3. True or False? If corrective actions are taken, artifacts can disappear.

- A. False
- B. True**

4. Which artifact is created when sound reflects off a strong reflector and is then directed back toward the transducer a second time?

- A. Focal enhancement
- B. Lateral resolution artifact
- C. Comet tail
- D. Mirror image artifact**

5. What is another term for comet tail?

- A. Range error artifact
- B. Ring down artifact**
- C. Mirror image artifact
- D. Focal banding

6. What term describes the ability to accurately position a moving structure?

- A. Temporal resolution**
- B. Contrast resolution
- C. Elevational resolution
- D. Spatial resolution

7. True or False? Lateral resolution artifact can display a reflector as a wide line instead of a point.

- A. False
- B. True**

8. Which artifact creates one reflection from two closely spaced reflectors along the beam axis?

- A. Lateral resolution artifact
- B. Mirror image artifact
- C. Axial resolution artifact**
- D. Comet tail artifact

9. What is transmission with a bend?

- A. Attenuation
- B. Refraction**

- C. Reflection
- D. Scattering

10. How is enhancement related to the speed of sound traveling in a medium?

- A. It occurs only in high-speed media
- B. It is unrelated to propagation speed**
- C. It occurs only in low-speed media
- D. It is caused by speed error

11. What does reverberation artifact add to the image?

- A. Too many reflections**
- B. No displayed echoes
- C. Only deeper real structures
- D. Too few reflections

12. Which artifact is seen when some pulses travel directly to and from a reflector, while others take an indirect path?

- A. Axial resolution artifact
- B. Enhancement artifact
- C. Slice thickness artifact
- D. Multipath artifact**

13. What term means echo-free?

- A. Hyperechoic
- B. Anechoic**
- C. Hypoechoic
- D. Isoechoic

14. What is spatial resolution related to?

- A. Pixel density**
- B. Doppler angle only
- C. Wall filter frequency
- D. Output power only

15. Which artifact appears when the beam dimension is larger than the reflector size?

- A. Aliasing artifact
- B. Slice thickness artifact**
- C. Crosstalk artifact
- D. Speed error artifact

16. What artifact appears as a hyperechoic region extending below an abnormally low attenuating structure?

- A. Reverberation
- B. Shadowing
- C. Enhancement**
- D. Lateral resolution artifact

17. Which artifact appears as a hyperechoic, side-to-side enhancement at the depth of the focal zone?

- A. Edge shadow
- B. Focal enhancement**
- C. Mirror image artifact
- D. Comet tail

18. What does speed error artifact look like?

- A. Reflectors at incorrect depths, or a cut or split in an object**
- B. A bright band only at the focal zone
- C. A dark region deep to a strong attenuator
- D. Multiple equally spaced echoes

19. Which line density results in inferior spatial resolution?

- A. Maximum line density
- B. Line density unrelated to image detail
- C. High line density
- D. Low line density**

20. What does refraction artifact do to lateral resolution?

A. Degrades lateral resolution

- B. Eliminates the need for focusing
- C. Leaves lateral resolution unchanged
- D. Improves lateral resolution

21. What is an error in imaging called?

A. Specular reflector

B. Artifact

- C. Enhancement
- D. Attenuation

22. How are lobe artifacts reduced?

A. Using a longer spatial pulse length

B. Increasing output power only

C. Subdicing and apodization

D. Removing all focusing

23. What is another term for focal enhancement?

A. Ring down artifact

B. Focal banding

- C. Range error artifact
- D. Shadowing by refraction

24. What reduces an image's noise and improves signal-to-noise ratio?

A. Turning off focusing

B. Harmonic imaging

- C. Using fewer scan lines only
- D. Increasing slice thickness

25. What are the lobes created by an array transducer called?

A. Side lobes

B. Ring down lobes

C. Range error lobes

D. Grating lobes