1. The following is not a method of forming rifling in a barrel.

   A. Electrochemical
   B. hammer forged
   C. machine cut
   D. broach cut
   E. button rifling

2. The identification of fired bullets, cartridge cases or other ammunition components as having been fired from a specific firearm is referred to as:

   A. Forensic Ballistics
   B. Ballistics
   C. Ammunition Identification
   D. Firearm Identification
   E. Cartridge Identification

3. Cartridges designed for use in auto loading pistols will usually have this word in their cartridge designation:

   A. Auto
   B. Semi
   C. Long
   D. Caliber
   E. S&W

4. By holding the nose of the bullet pointing away from you, the direction the rifling impressions run _________ from you determines the direction of twist.

   A. away
   B. parallel
   C. toward
5. Firearms identification is actually a form of _______________ where the firearm, because it is made of a material harder than the ammunition components, acts as a tool to leave impressed or striated marks on the various ammunition components that come into contact with the firearm.

   A. tool and die
   B. toolmark identification
   C. physics
   D. forensic science
   E. ballistic identification

6. Grooves cut or formed in a spiral nature lengthwise down the barrel of a firearm.

   A. striation
   B. lines
   C. rifling
   D. forged marks
   E. all apply

7. Which of the following is NOT an impressed action mark?

   A. Firing pin impression
   B. Concentric breech marks
   C. Firing pin drag marks
   D. Ejector marks

8. Firearms and ammunition of European origin use the ________ system to indicate the size of the bullet.

   A. Dewey Decimal
   B. metric
   C. Latin
   D. caliber
   E. English
9. In addition to comparing ammunition components to firearms, firearm examiners conduct other examinations that usually include which of the following:

A. Determine the manufacturer or manufacturers of firearms that may have fired a particular bullet or cartridge case.
B. All are correct
C. Examine clothing and other items for gunshot residues and/or shot patterns in an attempt to determine a muzzle-to-garment distance.
D. Testing firearms to determine if they function properly.
E. Determine caliber and manufacturer of ammunition components. Including the examination of various shotshell components.

10. Intentional or design characteristics that would be common to a particular group or family of items are:

A. Class Characteristics
B. Impressed Marks
C. Individual Characteristics
D. Toolmarks
E. Striations

11. Firearms leave unique characteristics on the ammunition components due to:

A. manufacturing processes, use, and abuse
B. rifling impressions
C. breech marks
D. drillings
E. gas pressure within the barrel

12. Two class characteristics of firearms that relate to the bullets fired from them includes:

A. caliber and rifling pattern
B. striations and impressed marks
C. model and barrel length
D. all apply
E. gunpowder and primer residues
13. Class characteristics that relate to the identification of Cartridges and Cartridge cases are:

<table>
<thead>
<tr>
<th>Option</th>
<th>Choice</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. all apply</td>
<td>✗</td>
</tr>
<tr>
<td>B. firing pin impressions</td>
<td>✗</td>
</tr>
<tr>
<td>C. ejector mark shape</td>
<td></td>
</tr>
<tr>
<td>D. extractor mark location</td>
<td></td>
</tr>
<tr>
<td>E. breech marks</td>
<td></td>
</tr>
</tbody>
</table>

14. If class characteristics between an ammunition component and a firearm are in agreement the next step in the examination process would be to look for:

<table>
<thead>
<tr>
<th>Option</th>
<th>Choice</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. microscopic residues</td>
<td>✗</td>
</tr>
<tr>
<td>B. safety defects</td>
<td></td>
</tr>
<tr>
<td>C. radial fractures</td>
<td></td>
</tr>
<tr>
<td>D. individual characteristics</td>
<td>✗</td>
</tr>
<tr>
<td>E. nitrites</td>
<td></td>
</tr>
</tbody>
</table>

15. Imperfections in the surface of the interior of the barrel leave these marks on bullets:

<table>
<thead>
<tr>
<th>Option</th>
<th>Choice</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. contour</td>
<td></td>
</tr>
<tr>
<td>B. concentric</td>
<td></td>
</tr>
<tr>
<td>C. impressions</td>
<td></td>
</tr>
<tr>
<td>D. parallel</td>
<td></td>
</tr>
<tr>
<td>E. striations</td>
<td>✗</td>
</tr>
</tbody>
</table>

16. Firearm Examiners commonly use this to collect fired standards from firearms.

<table>
<thead>
<tr>
<th>Option</th>
<th>Choice</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. phone books</td>
<td></td>
</tr>
<tr>
<td>B. water tank</td>
<td>✗</td>
</tr>
<tr>
<td>C. sand</td>
<td></td>
</tr>
<tr>
<td>D. suction</td>
<td></td>
</tr>
<tr>
<td>E. bullet stop</td>
<td></td>
</tr>
</tbody>
</table>
17. Firearm Examiners validate the unique characteristics being produced by a firearm by examining these first.

A. rifling
B. fired standards
C. breech marks
D. imperfections
E. cannelure

18. Firearm Examiners use this instrument to examine bullets and cartridge cases for similar marks.

A. bore scope
B. hand-held loupe
C. stereo microscope
D. scanning electron microscope (SEM)
E. comparison macroscope

19. Most positive bullet identifications are made on striations that are found where?

A. on land impressions near the base of the bullet
B. on the shoulder of land impressions
C. on groove impressions near the base of the bullet
D. near the nose of the bullet
E. on the bottom of the bullet

20. Caliber is a term used to indicate the:

A. the length of the bullet
B. the quality of marks present.
C. diameter of a bullet in mm.
D. direction of twist in the barrel.
E. diameter of a bullet in hundredths of an inch.
21. A cartridge is a single unit of ammunition consisting of:

A. cartridge case, wadding, pellets and primer
B. the cartridge case, primer, and propellant with or without one or more projectiles
C. the shell, wadding, pellets, and slug
D. the cartridge case, primer, and one or more projectiles
E. the primer, cartridge case, and bullet

22. All of the cartridges below are in the 22 caliber "family" except:

A. 22 Long Rifle
B. 22 Long
C. 22 Magnum
D. 22 Mono
E. 22 Short

23. Which is not an examination designed to help firearm examiners arrive at a basic caliber for a submitted bullet.

A. measuring the bullet's diameter
B. examining the physical characteristics of the bullet
C. determining the age of the bullet
D. weighing the bullet
E. measuring the length of the bullet

24. A revolver chambered for 357 MAGNUM cartridges can also fire which cartridge.

A. 357 Webley
B. 38 Maximum
C. 22 Long Rifle
D. 38 Special
E. 380 AUTO
25. The following firearm normally does not have rifling in its barrel.

A. pistol  
B. rifle  
C. derringer  
D. shotgun  
E. revolver

26. Rifling in the barrel of a firearm are made up of these two elements.

A. hills and mountains  
B. lands and grooves  
C. all apply  
D. lands and valleys  
E. creases and folds

27. The following is a common rifling pattern.

A. 5/Left  
B. 15/Right  
C. 3-Left  
D. 10/Left  
E. 6/Right

28. 16-Right rifling is also called ______-groove rifling.

A. micro  
B. small  
C. polygonal  
D. multi  
E. mini
29. Hammer forged rifling usually produces this type of rifling.

A. Conventional
B. Broach
C. Button
D. English
E. Polygonal

30. Polygonal rifling is usually found in this brand of firearms.

A. Beretta
B. Hi-Point
C. Smith & Wesson
D. Glock
E. Colt

31. In the process that eliminates the conventional machining of metal, rifling is formed by wet-etching the interior of a barrel under an electric current. The metal inside the barrel is actually eaten away or dissolved to create grooves in the barrel.

A. Electrochemical Rifling
B. Hammer Forged Rifling
C. Broach Current Cut
D. The Clapper
E. Electro-machined Rifling

32. Polygonal rifling has the appearance of ________________.

A. Lines & Curves
B. Hills & Valleys
C. Creases & Wrinkles
D. Lands & Grooves
E. Bumps & Dents
33. A ________________ is allowed to express an opinion about the validity of the evidence in a case and may quote the statements of others in support of an opinion.

A. lay person
B. public defender
C. eye witness
D. attorney
E. expert witness

34. Because there is a distinct edge at the transition from a land to a groove impression, the widths of the lands and grooves can be measured in this traditional rifling method.

A. Button Rifling
B. Straight Rifling
C. Curved Rifling
D. Polygonal Rifling
E. Pinched Rifling

35. The rifling pattern in the barrel that fired a particular bullet can be determined by __________ the number of groove or land impressions around the circumference of the bullet.

A. counting
B. photographing
C. marking
D. casting
E. measuring

36. Cartridges designed for use in auto loading pistols will usually have this word in their cartridge designation:

A. Caliber
B. Auto
C. Long
D. Semi
E. S&W
37. The _______ is the distance the rifling needs to spiral down the barrel for it to complete a single revolution. An example would 1 turn in 12 inches.

A. spiral  
B. rate of twist  ☒  
C. core distance  
D. bore length  
E. lands and grooves  

38. _______ _______ taken from the recovered bullets can be used to determine the possible manufacturers of the firearm from which the bullets were fired.

A. Rifling Parameters  ☒  
B. Trace evidence  
C. Bullet velocity  
D. Cannelure configuration  
E. Primary colors  

39. __________________ are the identified rifling pattern (i.e. 8/right) and the diameters of the individual lands and grooves.

A. Bullet size and weight  
B. Firearm parameters  
C. Cartridge case parameters  
D. Ballistic data  
E. General Rifling Characteristics (GRC)  ☒  

40. Tool marks produced on cartridge cases will be in which two basic forms.

A. smooth and course action marks  
B. striated and impressed action marks  ☒  
C. concentric and parallel action marks  
D. light and heavy action marks  
E. inner and outer action marks 
41. These action marks are produced when the cartridge case moves laterally against the tool (inner surface of the firearm) producing a scrape mark.

A. deep □
B. round □
C. impressed □
D. striated ☒
E. smooth □

42. These action marks are created on a cartridge case when it impacts the tool (firearm) and no lateral movement occurs.

A. impressed ☒
B. striated □
C. colored □
D. scratch □
E. shiny □

43. Which of the following is NOT a striated action mark?

A. Firing pin drag marks □
B. Phantom marks ☒
C. Concentric breech marks □
D. Chamber marks □
E. Shear marks □

44. Most firearms have some type of _________ designed to minimize the potential for accidental discharge.

A. hammer □
B. barrel □
C. cylinder □
D. key □
E. safety ☒
45. Which of the following is NOT a manual safety?

A. Thumb
B. Cross-bolt
C. Half-cock
D. Internal firing pin block ❌
E. Safety button

46. Which of the following is not an internal safety?

A. Thumb ❌
B. Hammer block
C. Firing pin disconnect
D. Transfer bar
E. Drop

47. ____________ is that given by a specialist who has been recognized by the court as having expert knowledge about evidence in the case.

A. Expert testimony ❌
B. A photograph
C. Handwriting samples
D. Fingerprint evidence
E. A written report

48. Conclusions reached in a bullet comparison will NOT include the following.

A. Positive ID
B. Inconclusive ID
C. Negative ID
D. Personal ID ❌
E. Negative ID
49. Qualifications typically given by a Firearm Examiner to be considered an expert by the courts will NOT include which of the following?

A. Specialized training received  
B. Drivers license number  
C. Past testimony experience  
D. College degrees held  
E. Years of service in the field

50. As scientists and expert witnesses (and to remain as such), it is of the utmost importance that we maintain complete ____________ in our work.

A. concentration  
B. partiality  
C. functionality  
D. impartiality  
E. ambiguity