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**Firearms & Tool Marks Exam**

**Matching**

1. Grooves
2. Bore
3. Caliber
4. Breechblock
5. Semiautomatic
6. Trajectory
7. Gauge
8. Lands
9. Muzzle
10. Rifling

1.\_\_\_\_\_ The spiral grooves formed in the bore of a barrel that impart spin to the projectile when it is fired

2.\_\_\_\_\_ The end of the barrel from which the projectile exits a firearm

3.\_\_\_\_\_ The size designation of a shotgun; originally the number of lead balls with the same diameter as the barrel that would weigh a pound

4.\_\_\_\_\_ The flight path of a projectile

5.\_\_\_\_\_ The cut or low-lying portions between the lands in a rifled bore

6.\_\_\_\_\_ The rear part of a barrel

7.\_\_\_\_\_ The diameter of the bore of a rifled firearm, usually expressed in hundredths of an inch or millimeters

8.\_\_\_\_\_ The raised portions between the grooves in a rifled bore

9.\_\_\_\_\_ A pistol with a clip-fed mechanism that fires one shot per pull of the trigger; the empty cartridge ejects and the next cartridge advances automatically

10.\_\_\_\_\_ The interior of a firearm barrel

**Multiple choice questions**

11.\_\_\_\_ Shotguns are examples of

1. Handguns
2. Long guns
3. Revolvers
4. Semiautomatic weapons

12.\_\_\_\_ Which of the following best describes the trajectory of a projectile?

a. The height of the shooter

b. The flight path of the bullet

c. The housing for the bullet’s gunpowder

d. The pattern of lands and grooves on the projectile

13.\_\_\_\_ The caliber of a bullet is related to its

1. Diameter
2. Length
3. Speed
4. Weight

14.\_\_\_\_ Semiautomatic pistols store cartridges in a

a. Magazine (clip)

1. Cylinder
2. Firing pin
3. Muzzle

15.\_\_\_\_ The revolver features several firing chambers located within

a. The grip of the firearm

b. The muzzle of the firearm

c. A reloadable magazine

d. A rotating cylinder

16.\_\_\_\_ The barrel of a shotgun

a. Is indistinguishable from that of a rifle

b. Is engraved with grooves but not lands

c. Is generally shorter than a rifle

d. Is smooth without the grooves and lands found in a rifle

17.\_\_\_\_ The reason grooves are rifled into the bore of a gun is so that a

a. Bullet moving through will have unique striations

b. Manufacturer can put its unique marks on its product

c. Bullet will be reduced in size before it exits the gun

d. Bullet will be made to spin and hence have a true and accurate course on leaving the barrel

18.\_\_\_\_ Generally, the gauge of a shotgun is \_\_\_\_\_ to the diameter of its barrel.

a. Not related

b. Indirectly related

c. Directly related

d. Sometimes related

19.\_\_\_\_ Distinctive markings of shells and cartridges can be made by the

a. Firing pin

b. Extractor and ejector mechanism

c. Breech block

d. All of the above

20.\_\_\_\_ Generally speaking, the amount of gunpowder particles found around a bullet hole is \_\_\_\_\_\_\_\_\_\_\_\_ to the distance from which the weapon was fired.

a. Indirectly related

b. Directly related

c. Not related

d. Somewhat related

21.\_\_\_\_ Gunpowder residue patterns can be detected by

a. The Greiss Test

b. DNA sequence analysis

c. Both A and B

d. Neither A nor B

22.\_\_\_\_ To prevent the disturbance of latent fingerprints on a firearm, the weapon should be lifted by

a. The outside of the barrel or the trigger

b. Using disposable forceps

c. Inserting a pencil into the barrel

d. The edge of the trigger guard or by the checkered portion of the grip

23.\_\_\_\_ Tools and tool marks are often found at burglary scenes and can be useful evidence. Proper evidence collection by the field investigator would include

a. Taking a photograph and cast of the marks, if necessary

b. Immediately dusting the tool for fingerprints

c. Making test marks with the suspected tool onto a soft metal surface at the crime scene

d. Packing tools and tool mark evidence together so that the crime lab personnel know they are thought to be a matched set

24.\_\_\_\_ Which is **not** a class characteristic of a suspect’s sneakers?

1. Size
2. Brand
3. Style
4. Wear marks

25.\_\_\_\_ Which of the following is not expected to show any evidential marks or impressions?

a. A cartridge casing from a shotgun

b. A cartridge casing fired from a handgun

c. A fired bullet

d. A shotgun pellet

26.\_\_\_\_ Which of the following factors is least likely to be considered by a technician examining tool marks?

1. The brand name of the tool
2. The side or portion of the tool making the impression
3. The angle at which the tool was held
4. The direction of the tool movement as it passes over the surface

27.\_\_\_\_ Which of the following results is not possible from a laboratory examination of firearm evidence?

1. Determining how far from the victim the weapon was held
2. Determining that two or more cartridge casings were fired from the same weapon
3. Identifying a bullet as having been combined with a particular shell prior to being discharged
4. All of the above

28.\_\_\_\_ The mechanism in a firearm that withdraws a cartridge or fired case from the chamber is the

1. Rifling
2. Breech block
3. Extractor
4. Ejector

29.\_\_\_\_ A mark or impression made by a tool on a softer surface is a(n)

1. Tool mark
2. Abrasion mark
3. Cutting mark
4. Indentation mark

30.\_\_\_\_ A mark produced when a surface slides across another surface is a(n)

1. Tool mark
2. Abrasion mark
3. Cutting mark
4. Indentation mark

**True or False Questions**

31.\_\_\_\_ The lands and grooves of a barrel’s rifling improve the accuracy of a bullet.

1. True
2. False

32.\_\_\_\_ The caliber of a cartridge is usually measured in one-hundredths of an inch.

1. True
2. False

33.\_\_\_\_ If a tool mark impression is matched to a specific tool, then the owner of that tool must have been at the crime scene.

1. True
2. False

34.\_\_\_\_ Pry bar and crowbar marks cannot be distinguished from each other.

1. True
2. False

35.\_\_\_\_ The amount of gunshot residue on a victim is usually proportional to the distance between the victim and the shooter.

1. True
2. False