

Arson, Explosives, and Ballistics (and associated classwork) Study Sheet

You can complete the following review for 5% extra credit toward the Unit 9 Exam. Must be completed IN YOUR OWN HANDWRITING and turned in on test day.

Arson

1. What is arson? What are some reasons someone would commit arson (arson typology)?
2. What is the fire triangle?
3. What is the concentration of oxygen in the atmosphere? What is the minimum concentration of oxygen required for fire?
4. How is heat transferred?
5. What is the ignition temperature? What is the flash point?
6. Why are arsons difficult to investigate?
7. What is the point of origin and how is it determined by the fire investigator?
8. Explain different fire indicators for arson.
9. What is an accelerant? How would it be detected at a crime scene? In the lab?
10. How is arson evidence packaged?
11. What is a substrate control?
12. How can the identity of an accelerate be confirmed?
13. Describe presumptive tests for accelerates.

Explosives

14. How are explosions similar to fires?
15. Compare and contrast low vs high explosives.
16. Describe the two different types of high explosives.
17. Describe the tests that are used to check for explosives. Are they presumptive or confirmatory and what are they looking for.

Ballistics

18. What is ballistics? Who is the Father of Ballistics (Slide 34)?
19. Explain some of the information a ballistics expert can learn about a shooting-related crime.

20. What is a bullet, cartridge, and slug?
21. What is primer powder? Propellant?
22. What part of the bullet propels/moves and what part stays behind?
23. What is the difference between rimfire and centerfire?
24. Briefly describe different types of bullets.
25. What is caliber?
26. Briefly describe how a firearm works.
27. What are lands and grooves? Are they class or individual evidence?
28. What is the difference between a rifle and shotgun? Pistols and revolvers?

Analyzing ballistics evidence

29. Explain rifling patterns. How are they made? Class or individual evidence? Are they on the bullet or cartridge?
30. Explain breech patterns. How are they made? Class or individual evidence? Are they on the bullet or cartridge?
31. Explain firing pin impressions. How are they made? Class or individual evidence? Are they on the bullet or cartridge?
32. Explain extractor/ejector. How are they made? Class or individual evidence? Are they on the bullet or cartridge?

Ballistics: data bases

33. What is NIBIN?
34. What is IBIS? Drugfire? Make sure you know what part of the gun/cartridge/bullet they hold information for.

Ballistics: trajectory

35. What is trajectory? How is it calculated?
36. Know how to calculate trajectory using the two triangles method.

Ballistics: evidence packaging, wounds, and GSR determination

37. Explain how ballistics evidence is packaged.
38. What is gunshot residue?
39. Explain how distance can affect the amount of GSR. When will you no longer find GSR?

40. What is the Modified Griess test?

41. What is the difference in appearance of an entrance vs an exit wound caused by a gunshot?