Unit 4 - Blood Part 2 - Blood Spatter Study Guide Name _____

1. Distinguish between spikes and satellites on blood spatter.

2. Distinguish between blood spatter based upon blood dropping onto a smooth surface and a rough or textured surface.

3. Distinguish between the terms *cohesion* and *adhesion.*

4. Using the terms *cohesion* and *gravity,* explain why a drop of blood will be circular in appearance as it drops.

5. Using the terms *cohesion* and *surface tension,* explain why blood will appear as a rounded surface when it lands on flat surface.

6. Using the terms *momentum* and *cohesion*, explain why most of the blood will remain as a drop when it strikes a surface, but some of the blood will continue to move forming an elongated tail.

7. Given a series of blood spatter stains; be able to determine the direction that the blood was moving. Include in your answer the terms satellites and spikes.

8. Explain why blood spatter is considered circumstantial evidence.

9. Describe the difference between the following terms and what event could cause each:
    a. Cast off blood patterns.
    b. Transfer blood patterns.
    c. Projected blood patterns.

10. Explain the blood spatter pattern generated from a damaged artery. (arterial gush) Include in your answer the following:

    a. The over-all pattern of the blood spray

    b. The reason for the pattern showing high points and low points.

11. Explain why and how blood spatter looks different when dropped from a height of 30 cm compared to blood dropped from a height of 100 cm.

12. Define the term *terminal velocity.*

13. Distinguish a difference between blood spatter stains if the source of the blood was coming from a high velocity source such as a gun versus the source of blood generated from a blow on the head.

14. Explain how to draw lines of convergence from several drops of blood in order to determine the area of convergence or source of blood by answering the following:
    a. How to determine the direction or movement of the blood – Where to begin drawing your line in reference to the main blood droplet and the satellite blood drops.
    b. How should the line be drawn through the main droplet of bloodstain?
    c. How to determine the point of convergence using these lines of convergence.
    d. How to draw a circle around the point of convergence.

15. Define angle of impact for blood spatter

16. Explain how to determine if a blood drop was dropped straight down based upon the shape of the drop at impact.

17. Explain what happens to the shape of a blood spatter as you move from a 10-degree impact angle to a 60-degree impact angle.

18. Explain how to calculate the impact angle from a single droplet of blood. Include in your answer:
    What is measured?

19. Describe how to read a measurement using a small caliper?

20. Explain what formula is used to determine the angle of impact

21. Given a several drops of blood, describe how to be able to analyze the crime scene by conducting a blood spatter analysis:

    a. Determine the direction of motion of the blood

    b. Determine angle of impact for several drops of blood

    c. Determine the area of convergence of the blood droplets

    d. Calculate the point of origin for the blood droplets.

22. <u>Use blood spatter analysis to try to recreate the events of the crime.</u>

23. How could luminol be important with blood spatter evidence?

From a blood spatter pattern, be able to explain each of the following:

24. Distinguish between the following terms:
    a. Lines of convergence
    b. Point of convergence
    c. Point of origin

25. Explain how to determine if a suspect "story" agrees with the story presented by the blood spatter patterns. (For example, did the victim hit their head as a result of a fall, or was the victim beaten with a stick?)

26. Why was blood evidence in the crime scene examined more closely in the Ron Rudin murder?

27. What was the importance of a void and cast off pattern in the Marilyn Sheppard murder case?

<u>Also, make sure you study the SWGSTAIN vocabulary</u>