

SI Forensics - Full Discipline Demo

Questioned Documents

Final Report - Answer Guide

Institution	Science Interactive University
Session	SI Forensics - Full Discipline Demo
Course	SI Forensics - Full Discipline Demo
Instructor	Sales SI Demo

Test Your Knowledge

Which of the following questions are asked and answered when verifying a questioned document? Classify each statement as true if the question is part of the verification process and false if it is not.

⌘ What writing instrument was used?	⌘ Is the paper consistent with the era?
⌘ Who wrote the document?	⌘ Is the content valid?
⌘ Are there any alterations or additions?	⌘ Is the document too perfect?
⌘ Why was the document altered?	⌘ What ink is used?

True	False
1	2

Correct answers:

- 1 What writing instrument was used? Is the document too perfect?
Is the paper consistent with the era? Is the content valid?
Are there any alterations or additions? What ink is used?
- 2 Who wrote the document? Why was the document altered?

Classify each statement as either a sign of handwriting forgery or not a sign of handwriting forgery.

⚡ Deviations of any kind from the exemplar ⚡ A signature that is identical to the exemplar ⚡ Evidence of frequent starts and stops ⚡ A different ink color or type from the exemplar ⚡ A signature apparently written in haste ⚡ Signs of tracing or retouching	
Sign of Forgery	Not a Sign of Forgery
1	2

Correct answers:

1 A signature that is identical to the exemplar

Signs of tracing or retouching Evidence of frequent starts and stops

2 Deviations of any kind from the exemplar

A signature apparently written in haste

A different ink color or type from the exemplar

Fill in the blanks below using the correct word or phrase.

⚙ either ultraviolet (UV) or infrared (IR) light

⚙ chemical means

⚙ backlighting

Sometimes, strong 1 may be enough to reveal the obliterated text.

Other times, illumination using 2 can reveal the text if one of the inks absorbs one of the wavelengths better than the other ink.

If the underlying text cannot be revealed through lighting, then 3 may be necessary.

Correct answers:

- 1 backlighting 2 either ultraviolet (UV) or infrared (IR) light
3 chemical means

Exploration

The discovery that part of the text on a questioned document was erased would answer which question as part of questioned document verification?

- ☐ Is the content valid?
- ☐ Is the document too perfect?
- ☒ Are there any alterations or additions?
- ☐ What writing instrument was used?



Handwriting analysis can only be done with the human eye and cannot be automated through computers.

- ☐ True
 - ☒ False
- ✓

Which of the following methods of visualizing text through an obliteration has the possibility of destroying the original text?

- ☐ Backlighting with white light
 - ☐ Illumination with infrared light
 - ☐ Illumination with ultraviolet light
 - ☒ Chemical methods of removing the obliteration
- ✓

Exercise 1

How much deviation did you observe within the exemplars themselves? What does this tell you about the need for multiple exemplars when conducting handwriting analysis?

What would have been different about your analysis if the volunteer had traced one of the exemplar signatures instead of forging the signature free-hand?

What do your results from this exercise tell you about the nature of handwriting analysis and the ability to identify a skilled forgery?

Photo 1: Exemplar signatures
(SAMPLE ANSWER BELOW)

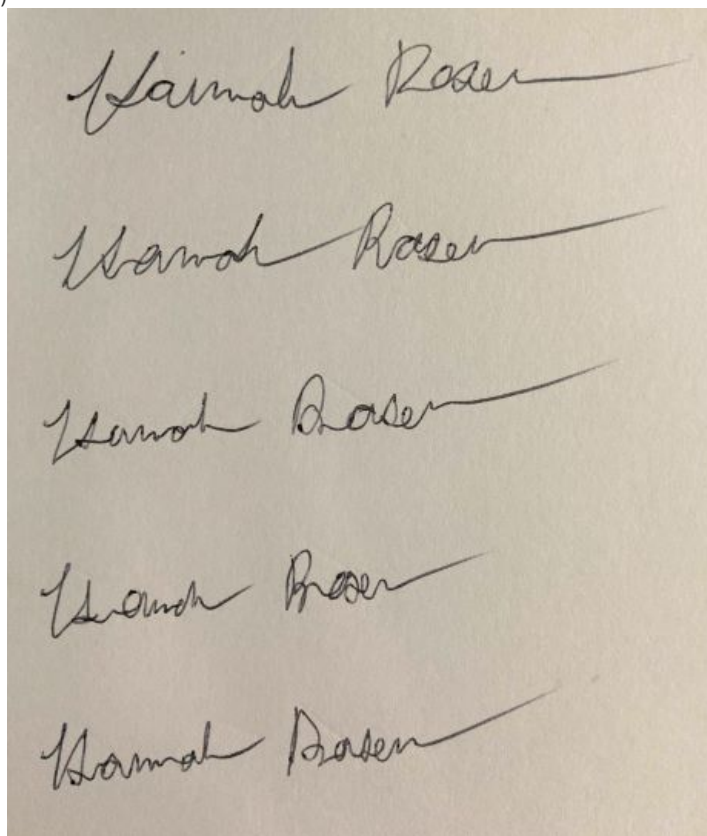
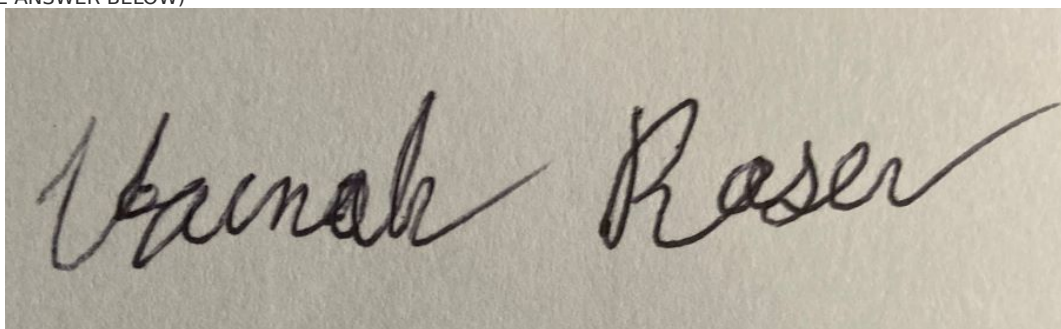


Photo 2: Questioned signature
(SAMPLE ANSWER BELOW)

A photograph of a piece of light-colored, textured paper with a handwritten signature in dark ink. The signature is written in a cursive style and reads "Umanah Raser". The first name "Umanah" is followed by a space and then the last name "Raser". The ink is dark and the paper has a slightly mottled appearance.

Observation 1: Questioned signature under hand lens
(SAMPLE ANSWER BELOW)

The loop at the bottom of the first H is composed of a jagged line in the questioned signature. The second a shows signs of retouching. There is a darker ink resting dot in the R that shows signs of an unusual stop and restart.

Observation 2: Signature tracing results
(SAMPLE ANSWER BELOW)

In the questioned signature, the bottom of the first a is lower than the bottom of the first h, which never occurs in the exemplar signatures. In the questioned signature, the top of the second h extends over the second highest part of the h, which never happens in the exemplars. The sequence of high points in the last name produce a more rounded pattern in the questioned document than in the exemplars.

Exercise 2

Which methods of revealing the obliterated text were effective, and which methods were ineffective?

Why did you perform the various methods for revealing the obliterated text in the order that you did?

Were you able to completely dissolve the obliteration through the chemical method? If not, is this a problem?

What is one other method of visualization of the obliterated text could you have tried for this document that was not included in this procedure?

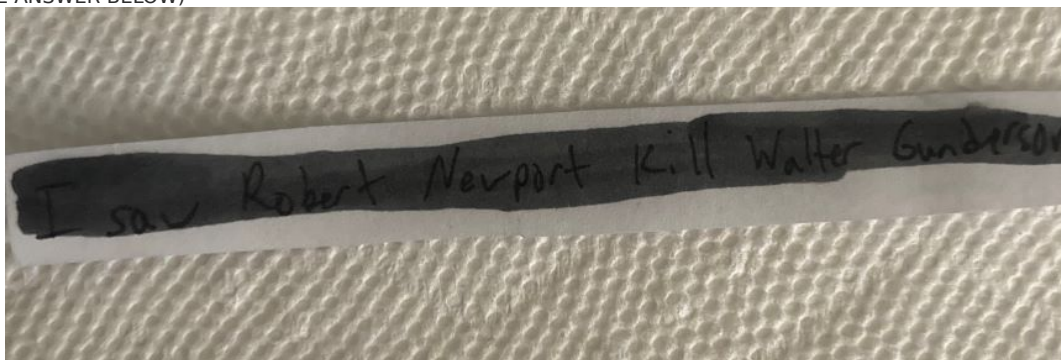
Observation 3: Obliterated text under white light
(SAMPLE ANSWER BELOW)

No decipherable text.

Observation 4: Obliterated text under UV light
(SAMPLE ANSWER BELOW)

"I saw Robert Newport kill Walter Gunderson."

Photo 3: Obliterated writing sample after dissolution in acetone
(SAMPLE ANSWER BELOW)



Observation 5: Obliterated text after dissolution in acetone
(SAMPLE ANSWER BELOW)

"I saw Robert Newport kill Walter Gunderson."

Competency Review

_____ is defined as the intentional creation or alteration of a document with the intent to defraud or commit theft.

- ☐ A questioned document
 - ☒ Forgery ✓
 - ☐ Graphology
 - ☐ Obliteration
-

When collecting exemplars, analysts should look for quality signatures and not ones written in haste.

- ☒ True ✓
- ☐ False

The admission of handwriting analysis as evidence in court is not guaranteed.

☐ True



☐ False

_____ is the overwriting of a piece of text resulting in the illegibility of the original text.

☐ A questioned document

☐ Forgery

☐ Graphology

☐ Obliteration



Illumination can only reveal obliterated text if it is performed with ultraviolet or infrared light.

☐ True

☐ False



In Exercise 1, multiple exemplar signatures were produced so that the best one could be selected and compared against the forgery.

☐ True

☐ False



In Exercise 2, the obliterated text could be deciphered using _____.

☐ UV light



☐ IR light

☐ white backlight

☐ both white backlight and UV light

In Exercise 2, the ink used to obliterate the original text was dissolved using _____.

- ☐ Ethanol
- ☐ Isopropanol
- ☒ Acetone
- ☐ UV light



Extension Questions

This lesson focused on the use of handwriting analysis to identify signature forgery. What other uses for handwriting analysis can you think of? What handwriting analysis techniques used in this lesson would or would not be transferable to the other application(s) you come up with and why? (SAMPLE ANSWER BELOW)

Handwriting analysis can also be used to try to determine if a specific individual wrote a piece of text, such as a ransom note. The analysis of writing slant, letter height, and unique letter characteristics would be applicable to this type of analysis. Other features, such as signs of frequent starts and stops or evidence of retracing or retouching would not be applicable.