

Calibration lab 1. Fingerprint comparison

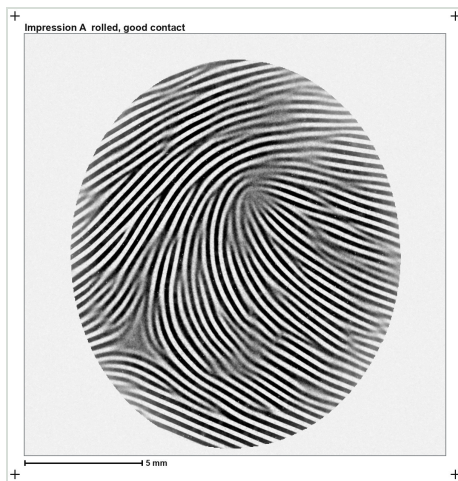
Four exercises. Measure first, interpret second, claim only what the evidence can carry.

CLAIM CEILING. READ THIS FIRST.

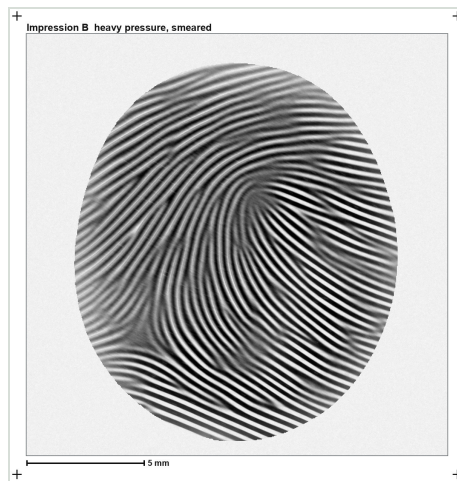
- **Polygraph.** It records breathing and heart rate. A change in either one is a physiological response. It is not a measurement of lying, and nothing in this unit produces a deception call.
- **Hair.** Microscopic similarity can support consistency or support exclusion. It cannot identify one person.
- **Fingerprint.** Pattern class can narrow a field or exclude a person. By itself it cannot name a source, and it never says when or why a finger touched something.
- **Timeline.** A scheduled event is not proof the person was there. Time of death is not established in the early case evidence.

FP-1. One finger, three impressions

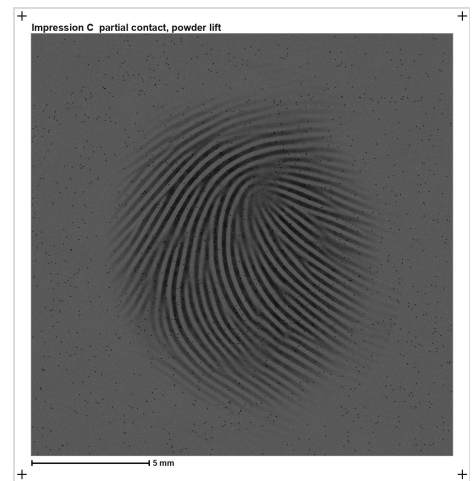
Every print below came from **the same finger**. Nobody is trying to trick you. The point is to see how much a single finger can change from one impression to the next.



A. Rolled, good contact



B. Heavy pressure, smeared



C. Partial contact, powder lift

STACKING THESE THREE

Each print carries a cross in every corner. Print this page on transparency, cut the three apart, and line the crosses up to lay one over another. The prints will **not** match perfectly even though they came from one finger, because skin stretches. That mismatch is the thing you are here to see.

Do this

1. Find the core in all three. Mark it with a small x.
2. Find the delta in all three. Mark it with a small triangle. If you cannot find it in one of them, write "not visible" instead of guessing.

3. Pick three features you can find in **A**. Number them 1, 2, 3.
4. Look for those same three in **B**, then in **C**. Record what happened to each one.

Feature	Type and where it is in A	Found in B?	Found in C?
Feature 1			
Feature 2			
Feature 3			

Write the take-home in your own words

Finish this sentence. A feature that is missing from one impression does not mean...

FP-2. Name what you see

You cannot compare a feature you cannot name. Work on this one print until you can label everything on the list.



FP-2. Inked exemplar. Read the scale bar printed under the image for its length.

Find and label

READ THIS BEFORE YOU START COUNTING

Not every print contains every kind of feature. Real prints often have no ridge dot at all, and a short ridge or an enclosure can be rare. **Write 0 when you find none.** A zero is a real observation. Writing a number you did not actually see is the mistake this whole unit is about.

Find this	How many? (0 is an answer)	Where it is (describe the location)
Pattern class		
Core		

Find this	How many? (0 is an answer)	Where it is (describe the location)
Delta		
Ending ridge		
Bifurcation		
Enclosure		
Ridge dot		
Short ridge		

Check yourself. Count the deltas. A plain arch has none. A tented arch and a loop each have one. A whorl has two. Does your delta count agree with the pattern class you wrote?

Then answer this. Which rows did you write a zero in? Say in one sentence why a zero there is useful information rather than a failure to find something.

FP-3. Ten pairs, rule locked first

LOCK YOUR RULE BEFORE YOU LOOK

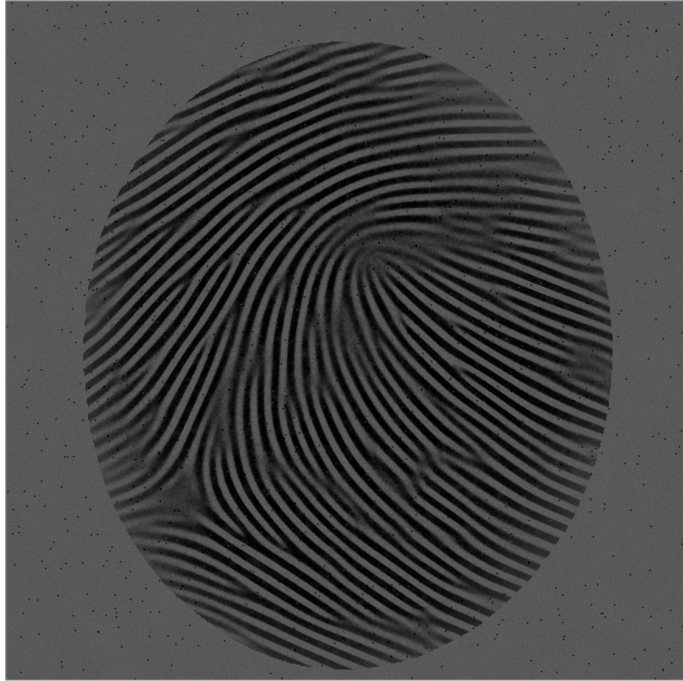
Write your decision rule now, before you open a single item. Once it is written you may not change it for this set. Changing a rule after seeing answers is how a test stops measuring anything.

How many corresponding features will you require before you will say these two prints correspond?
What will you do if you find one clear difference you cannot explain?

Your class kit manual describes usual practice as 10 to 12 points of comparison. You may choose a different number. You may not change it once the set starts.

For each pair, look at the **questioned** print first, on its own, and write down what you see. Only then uncover the **known** print. Call each pair one of three things: **correspondence**, **non-correspondence**, or **inconclusive**.

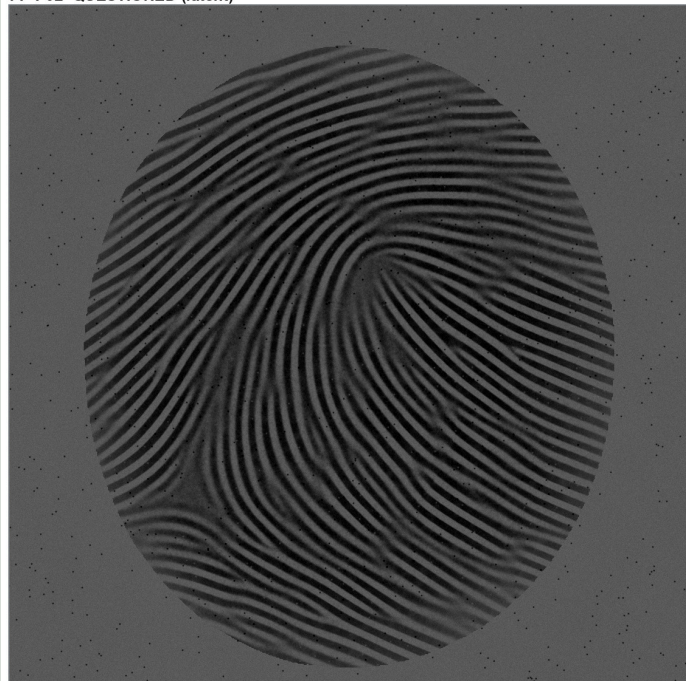
FP-P01 QUESTIONED (latent)



FP-P01 KNOWN (exemplar)



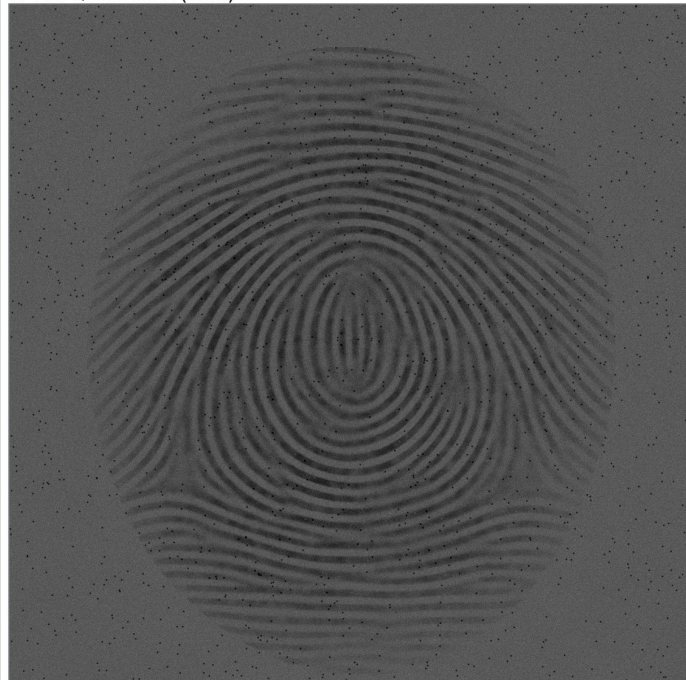
FP-P02 QUESTIONED (latent)



FP-P02 KNOWN (exemplar)



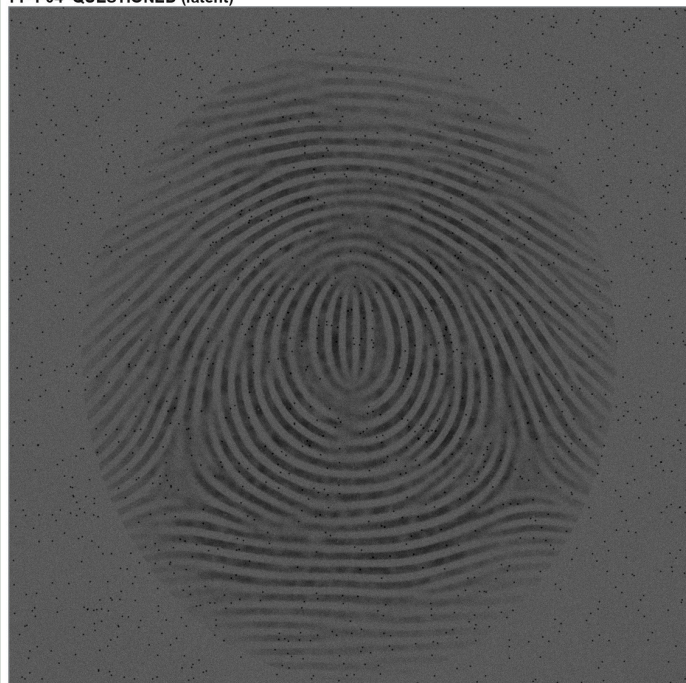
FP-P03 QUESTIONED (latent)



FP-P03 KNOWN (exemplar)



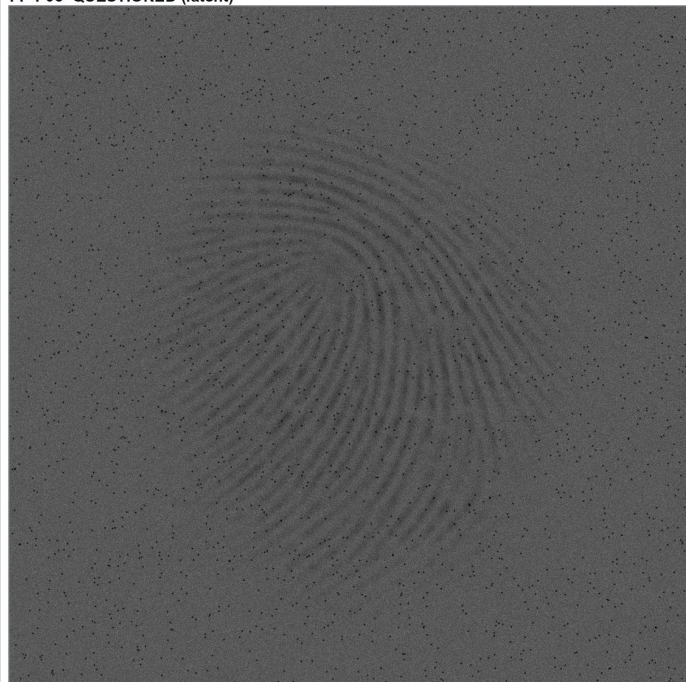
FP-P04 QUESTIONED (latent)



FP-P04 KNOWN (exemplar)



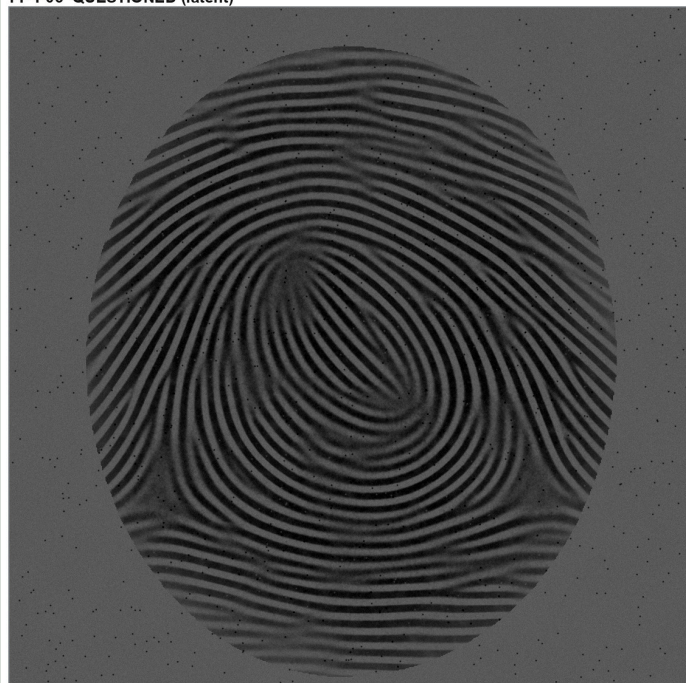
FP-P05 QUESTIONED (latent)



FP-P05 KNOWN (exemplar)



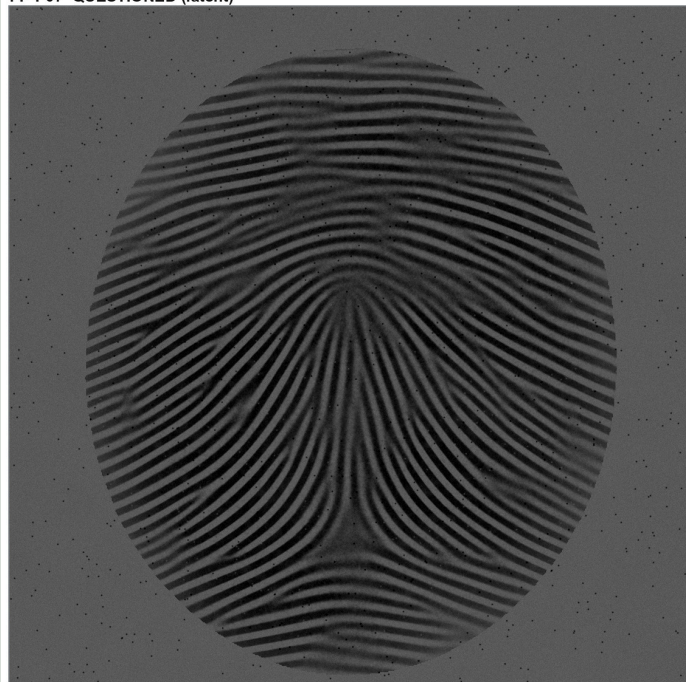
FP-P06 QUESTIONED (latent)



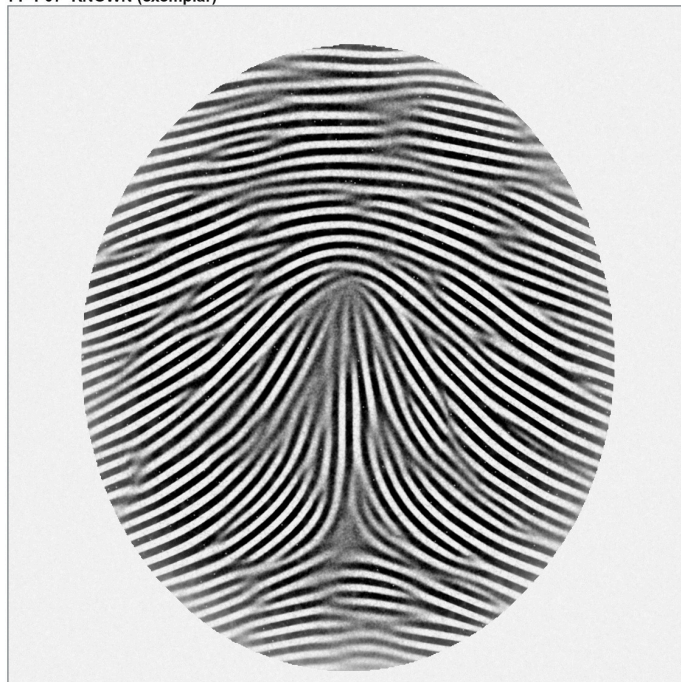
FP-P06 KNOWN (exemplar)



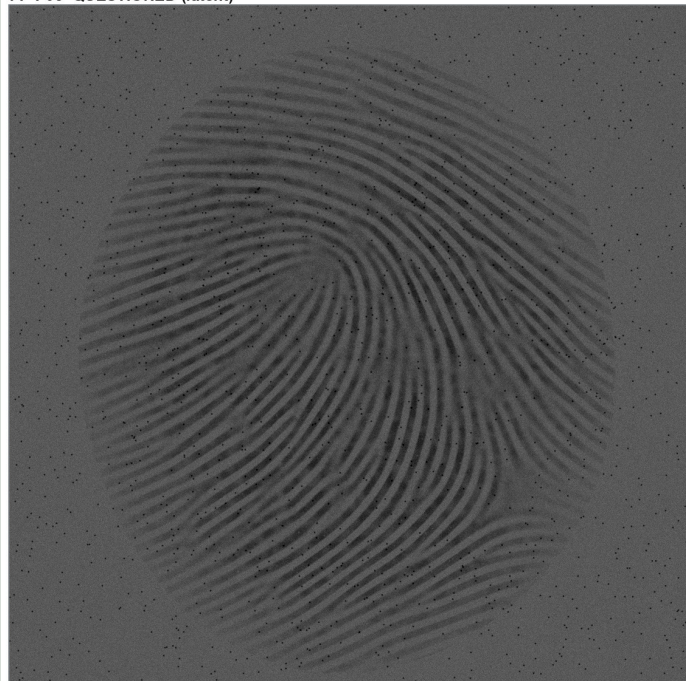
FP-P07 QUESTIONED (latent)



FP-P07 KNOWN (exemplar)



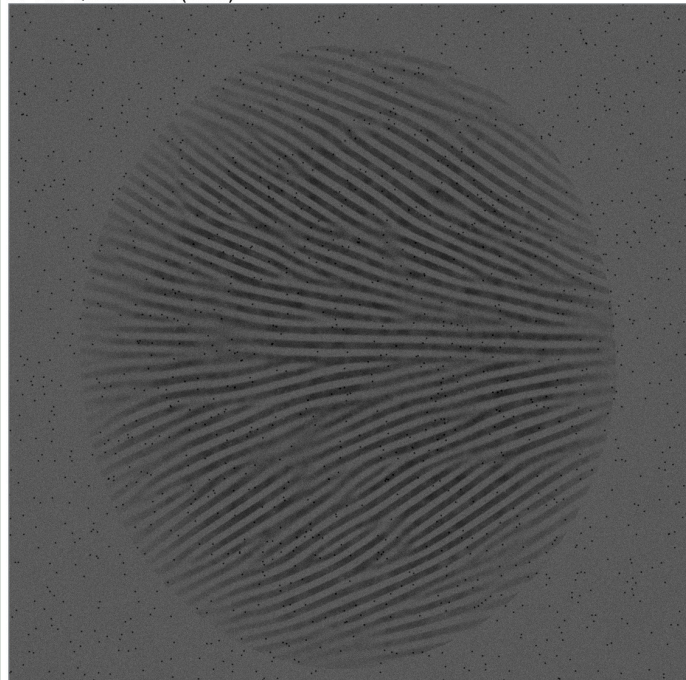
FP-P08 QUESTIONED (latent)



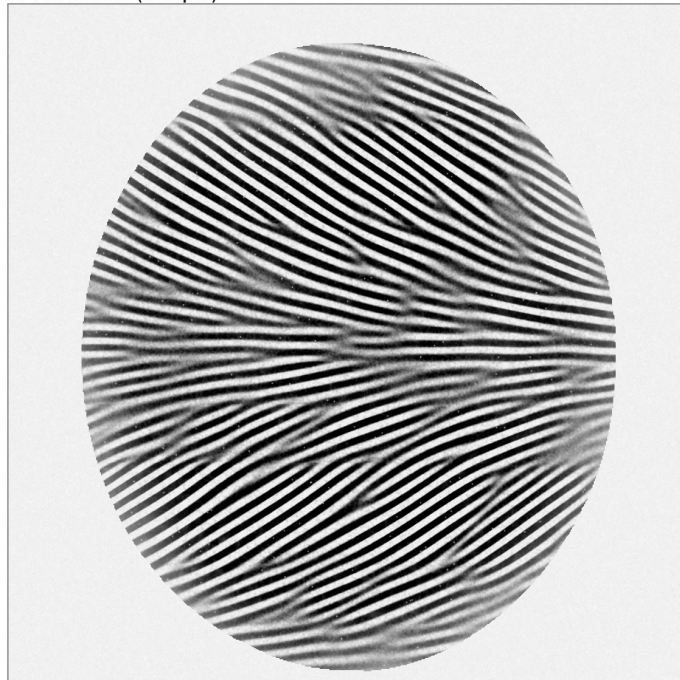
FP-P08 KNOWN (exemplar)



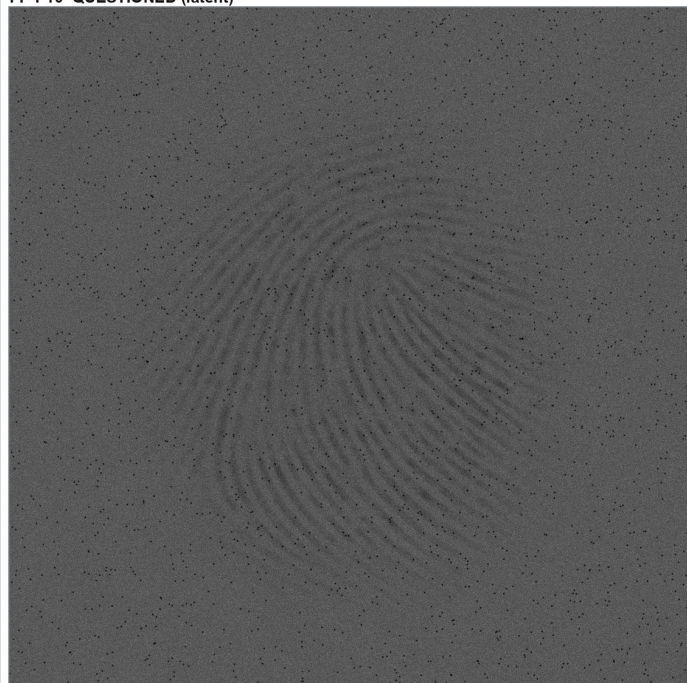
FP-P09 QUESTIONED (latent)



FP-P09 KNOWN (exemplar)



FP-P10 QUESTIONED (latent)



FP-P10 KNOWN (exemplar)



Your calls

Pair	Features you could actually use	Your call	One reason
FP-P01			
FP-P02			
FP-P03			
FP-P04			
FP-P05			
FP-P06			
FP-P07			
FP-P08			
FP-P09			
FP-P10			

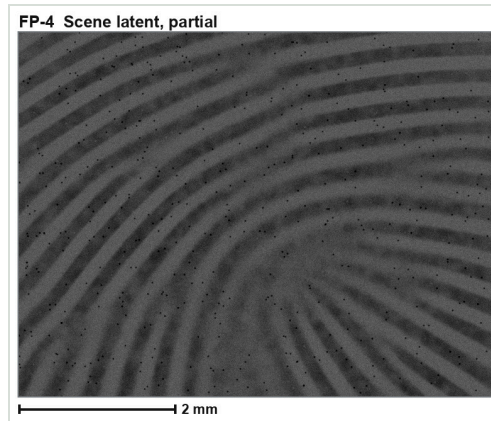
Count your own results

	Truth: same source	Truth: different source
You said same		
You said different		
You said inconclusive		

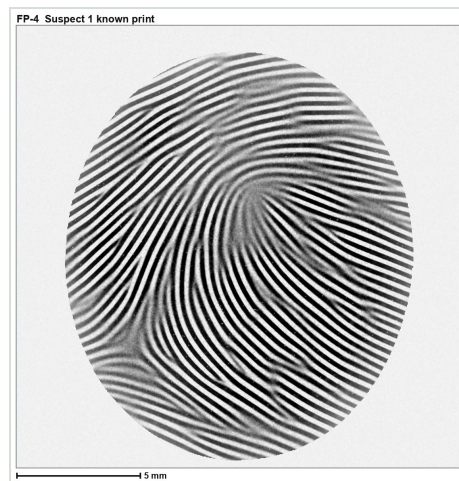
Inconclusive is not an error. Report it in its own row and keep it out of the numerator and the denominator when you state an error rate. Then say in one sentence how leaving it out changes the number you just reported.

FP-4. The scene partial

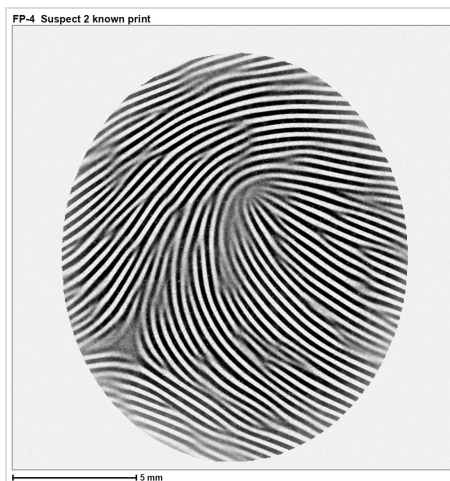
This fragment is what a real scene print usually looks like. Compare it to all five known prints. Do not stop at the first one that looks close.



Scene latent, partial. Read the scale bar printed under the image, and note that it is a different length from the bars on the suspect prints below. This fragment is shown much larger than life size.



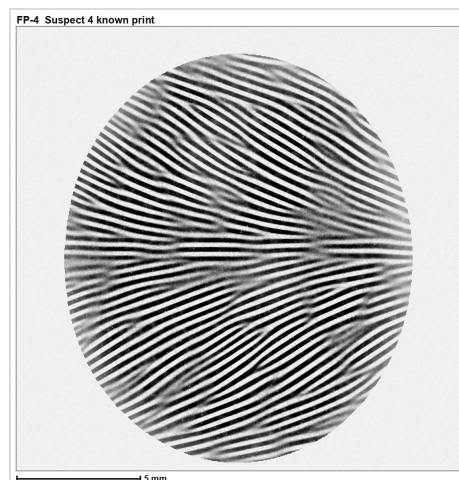
Suspect 1



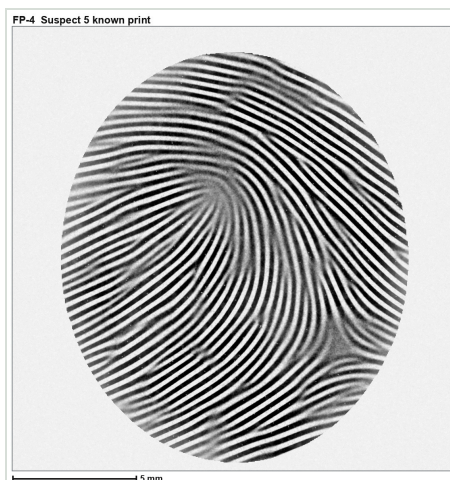
Suspect 2



Suspect 3



Suspect 4



Suspect 5

Known print	Pattern class	Corresponding features you found	Your call
Suspect 1			
Suspect 2			
Suspect 3			
Suspect 4			
Suspect 5			

The question that matters

Two suspects share the pattern class with the scene print. Write one sentence saying what your evidence **can** support, and one sentence saying what it **cannot**.