Teacher Answer Key

Case Study

1. Image 1: Google reverse search showing the image originally appeared six years ago in another country definitively proves the claimed context is false — the strongest possible contextual result. Image 2: TinEye's oldest-first sort connecting it to a three-year-old disaster photography blog establishes a prior context that doesn't match the current claim. Image 3: FotoForensics ELA showing digital manipulation signatures suggests human editing, while the absence of official emergency coverage confirms the claimed catastrophic event isn't being reported by authoritative local sources.

2. Even if all three images are individually debunked, step five establishes the broader impossibility of the entire claim — a real catastrophic flooding event in a U.S. city would generate official emergency management activity, local news coverage, and public response. The absence of any of these independent verification signals confirms the entire narrative is fabricated, not just the specific photographs used to illustrate it.

Multiple Choice

1. C

2. A

3. B

Matching

1-C, 2-A, 3-D, 4-E, 5-B

Fill-in-the-Blank

1) oldest, 2) strip, 3) fact-checkers

Short Answer (Sample Responses)

Q1: Pixel examination requires knowing what AI artifacts look like and hoping the fake was created with a tool that leaves detectable artifacts. Contextual tracing bypasses this entirely — it doesn't matter how perfect a fake looks if it can be shown to predate the event it claims to document. A real photograph of genuine flooding that was taken five years ago in Brazil cannot document current flooding in Texas, no matter how authentic it appears in itself.

Q2: No tool is perfect, and sophisticated fabricators can defeat any individual approach. This should produce epistemic humility — a recognition that we should

treat our own verification conclusions as probabilistic rather than certain, remain open to new evidence, and recognize that our confidence in detecting fakes is often higher than our actual accuracy. The goal of raising the cost of deception is realistic and achievable; the goal of perfect immunity to deception is not.

Q3: Different tools use different databases, different algorithms, and different analytical approaches — what one misses another may catch. This multi-tool requirement reflects a fundamental reality of AI-era verification: no single technique is comprehensive, and verification is an investigative process rather than a simple test. It mirrors how scientific and legal epistemology work — multiple independent lines of evidence are stronger than any single line, regardless of how convincing that single line appears.