Test Bank for Forensic Science Fundamentals and Investigations 3rd Bertino

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Name:_____ Class:_____ Date:_____

Chapter 01 Forensic Science and Observation

1. Trained investigators know to collect evidence based on its potential importance.
   a. True
   b. False

ANSWER: False
RATIONALE: The trained investigator collects all available evidence, without making judgments about its potential importance. That comes later. Knowing which evidence is significant requires the ability to recreate the series of events preceding the crime. The first step is careful and accurate observation.
POINTS: 1
DIFFICULTY: Easy
REFERENCES: WHAT IS FORENSIC SCIENCE?
QUESTION TYPE: True / False
HAS VARIABLES: False
DATE CREATED: 7/7/2020 3:50 PM
DATE MODIFIED: 7/29/2020 1:15 PM

2. Using the scientific method requires the scientist or investigator to form a hypothesis that is based on prior knowledge or observation.
   a. True
   b. False

ANSWER: True
RATIONALE: Scientists have established a rigorous study procedure known as the scientific method. After stating the problem or question, the scientist proposes a hypothesis based on prior knowledge or observation. A hypothesis is a possible explanation of a question or problem based on prior knowledge or observation. It is not a guess.
POINTS: 1
DIFFICULTY: Easy
REFERENCES: WHAT DO FORENSIC SCIENTISTS DO?
QUESTION TYPE: True / False
HAS VARIABLES: False
DATE CREATED: 7/7/2020 4:20 PM
DATE MODIFIED: 7/29/2020 1:15 PM

3. A perception is what a person perceives using sight, taste, hearing, smell, and touch.
   a. True
   b. False

ANSWER: False
RATIONALE: An observation is what a person perceives using their senses. Every single moment, we are gathering information about what is around us, through our senses—sight, taste, hearing, smell, and touch. The sensory information that we observe is delivered to our brain. Perception is our brain's interpretation of our sensory observations after our brains have filtered and processed the information.
POINTS: 1
DIFFICULTY: Easy
REFERENCES: OBSERVATION AND PERCEPTION

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QUESTION TYPE: True / False
HAS VARIABLES: False
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4. The human brain can process information directly from perception to long-term memory.
   a. True
   b. False

ANSWER: False
RATIONALE: Information is processed in the brain in the following order: information enters the brain through sensory inputs; we pay attention to only some of the information; this information is then processed through our perception. Of the perceived information, only a portion passes on to short-term memory, and even less of that information then becomes long-term memory.
POINTS: 1
DIFFICULTY: Easy
REFERENCES: OBSERVATION AND PERCEPTION
QUESTION TYPE: True / False
HAS VARIABLES: False
DATE CREATED: 7/8/2020 9:46 AM
DATE MODIFIED: 7/29/2020 1:15 PM

5. After years of use, experts agree that showing a six-person photo collection to an eyewitness is beneficial for identifying the perpetrator of a crime.
   a. True
   b. False

ANSWER: False
RATIONALE: An eyewitness is a person who has seen someone or something related to a crime and can communicate their observations. Memory fades with time, and our brains tend to fill in details that we feel are appropriate but may not be accurate. The use of “six packs” of photos (six-person photo collection) by law enforcement agencies is under review. Some experts feel their use prejudices witnesses who want to be helpful and feel the suspect must be in the photo array.
POINTS: 1
DIFFICULTY: Easy
REFERENCES: EYEWITNESS OBSERVATION
QUESTION TYPE: True / False
HAS VARIABLES: False
DATE CREATED: 7/8/2020 9:50 AM
DATE MODIFIED: 7/29/2020 1:16 PM

6. Often what a witness thought he saw and what really happened differ.
   a. True
   b. False

ANSWER: True
RATIONALE: When evaluating eyewitness testimony, the investigator must discriminate between fact, a statement

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or information that can be verified, and opinion, a personal belief founded on judgment rather than on direct experience or knowledge. Often what we think we saw and what really happened differ. Someone fleeing the site of a shooting might look like a suspect but could merely be an innocent bystander running away in fear of being shot.

POINTS: 1
DIFFICULTY: Easy
REFERENCES: EYEWITNESS OBSERVATION
QUESTION TYPE: True / False
HAS VARIABLES: False
DATE CREATED: 7/8/2020 9:56 AM
DATE MODIFIED: 7/29/2020 1:16 PM

7. Humans are not capable of paying attention to all of the details of our surroundings.
   a. True
   b. False

ANSWER: True
RATIONALE: We know that we are not naturally inclined to pay attention to all of the details of our surroundings. To be a good observer, we must make a conscious effort to examine our environment systematically.
POINTS: 1
DIFFICULTY: Easy
REFERENCES: IMPROVING OBSERVATION SKILLS
QUESTION TYPE: True / False
HAS VARIABLES: False
DATE CREATED: 7/8/2020 9:59 AM
DATE MODIFIED: 7/29/2020 1:16 PM

8. A witness who is lying will repeat the events exactly the same every time.
   a. True
   b. False

ANSWER: False
RATIONALE: A good interviewer uses other techniques to determine if an eyewitness is telling the truth or if they are lying. If a witness is telling the truth, the account of what happened is consistent each time they tell the story. If the witness is lying, it is more difficult to repeat the events exactly the same.
POINTS: 1
DIFFICULTY: Easy
REFERENCES: INTERVIEW TECHNIQUES
QUESTION TYPE: True / False
HAS VARIABLES: False
DATE CREATED: 7/8/2020 10:02 AM
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9. Effective interviewers provide considerable guidance to get the most information possible from an eyewitness.
   a. True

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b. False

ANSWER: False

RATIONALE: The most effective interviewers provide minimal guidance but instead ask questions that may help the person reconstruct what occurred. It is important for the interviewer to conduct the interview without interjecting any biases. By avoiding gender-specific terms such as he or she, the interviewer does not provide any information that may influence the eyewitness's perception of what or who they saw. The goal is to play back the witness's memory, not reconstruct it for them.

POINTS: 1

DIFFICULTY: Easy

REFERENCES: INTERVIEW TECHNIQUES

QUESTION TYPE: True / False

HAS VARIABLES: False

DATE CREATED: 7/8/2020 10:07 AM

DATE MODIFIED: 7/29/2020 1:17 PM

10. The verbal testimony of an experienced forensic scientist can be entered into evidence during court proceedings.

a. True

b. False

ANSWER: False

RATIONALE: While observing, it is important to write down and photograph as much information as possible. This will become very important later when we, or our investigating team members, are using our observations to try to piece together a crime. Documentation is also important when acting as an expert witness. A judge will only accept hair evidence that has been documented in writing and with photographs taken at the crime scene. The verbal testimony of a forensic scientist alone may not be entered into evidence without the proper documentation.

POINTS: 1

DIFFICULTY: Easy

REFERENCES: IMPROVING OBSERVATION SKILLS

QUESTION TYPE: True / False

HAS VARIABLES: False

DATE CREATED: 7/8/2020 10:10 AM

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11. The first step in a forensic investigation is _____.

a. recreating the scene of the crime

b. careful and accurate observation

c. judging what evidence is significant

d. to document the crime scene

ANSWER: b

RATIONALE: The trained investigator collects all available evidence, without making judgments about its potential importance. That comes later. Knowing which evidence is significant requires the ability to recreate the series of events preceding the crime. The first step is careful and accurate observation.

POINTS: 1

DIFFICULTY: Easy

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REFERENCES: WHAT IS FORENSIC SCIENCE?
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
DATE CREATED: 7/8/2020 10:12 AM
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12. Part of collecting physical evidence includes collecting data. _____ data is subjective.
    a. Qualitative
    b. Quantitative
    c. Quotative
    d. Quinquevalent

ANSWER: a
RATIONALE: Part of collecting physical evidence includes collecting data. Qualitative data is subjective, descriptive data, such as color or shape. We collect qualitative data using our senses. Quantitative data is objective—numerical data that can be measured, such as weight, height, and mass.
POINTS: 1
DIFFICULTY: Easy
REFERENCES: WHAT DO FORENSIC SCIENTISTS DO?
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
DATE CREATED: 7/8/2020 10:18 AM
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13. The ability to identify a concept or problem, isolate its component parts, organize information for decision making, establish criteria for evaluation, and draw appropriate conclusions is having _____.
    a. qualitative reasoning
    b. experiential proficiency
    c. quantitative reasoning
    d. analytical skill

ANSWER: d
RATIONALE: Forensic scientists and police are trained not only to observe but also to carefully analyze what they see. The ability to identify a concept or problem, isolate its component parts, organize information for decision making, establish criteria for evaluation, and draw appropriate conclusions is having analytical skill. Solving a crime depends on using this skill and requires patience and practice.
POINTS: 1
DIFFICULTY: Easy
REFERENCES: WHAT DO FORENSIC SCIENTISTS DO?
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
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14. _____ is an interpretation of sensory observations.
    a. Intellect

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b. Understanding
c. Perception
d. Reflection

ANSWER: c
RATIONALE: The sensory information that we observe is delivered to our brain. Perception is our brain's interpretation of our sensory observations after our brains have filtered and processed the information. Our perception is limited, and the way we view our surroundings may not accurately reflect what is really there. Perception has the potential to be faulty; it is not always accurate, and it does not always reflect reality.
POINTS: 1
DIFFICULTY: Easy
REFERENCES: OBSERVATION AND PERCEPTION
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
DATE CREATED: 7/8/2020 10:24 AM
DATE MODIFIED: 7/29/2020 1:19 PM

15. Perceptions of witnesses can be faulty, _____.
a. unless they are experiencing a positive emotional state
b. until they can recover from the stress of the event
c. but the majority of witnesses accurately remember events
d. even though they may be utterly convinced of what they saw

ANSWER: d
RATIONALE: Not surprisingly, the perceptions of witnesses can be faulty, even though a witness may be utterly convinced of what they saw. Our emotional state influences our ability to see and hear what is happening around us. If people are very upset, happy, or depressed, they are more likely not to notice their surroundings. Anxiety also plays a big part in what we see and what we can remember. Our fear at a stressful time may interfere with an accurate memory.
POINTS: 2
DIFFICULTY: Moderate
REFERENCES: EYEWITNESS OBSERVATION
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
DATE CREATED: 7/8/2020 10:37 AM
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16. When interviewing an eyewitness, examiners need to discover _____.
a. how the incident made the eyewitnesses feel
b. what they saw, not what they thought happened
c. whether witnesses can work together to recreate the events
d. which witnesses have the strongest opinions in the group

ANSWER: b
RATIONALE: When evaluating eyewitness testimony, the investigator must discriminate between fact, a statement or information that can be verified, and opinion, a personal belief founded on judgment rather than

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on direct experience or knowledge. What did the witness actually see? Often what we think we saw and what really happened differ. Someone fleeing the site of a shooting might look like a suspect but could merely be an innocent bystander running away in fear of being shot. Witnesses have to be carefully examined to ensure that they describe what they saw (eyewitness evidence), not what they thought happened (opinion).

POINTS: 2
DIFFICULTY: Moderate
REFERENCES: EYEWITNESS OBSERVATION
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
DATE CREATED: 7/8/2020 10:42 AM
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17. After evaluating hundreds of wrongful convictions, the Innocence Project found that _____.
    a. faulty eyewitness identification contributed to up to 70 percent of wrongful convictions
    b. eyewitness identification rarely contributed to wrongful convictions
    c. errors in eyewitness identification occurred when investigators failed to use a lineup
    d. most eyewitnesses were able to correctly identify the age and distinctive facial features

ANSWER: a
RATIONALE: After evaluating hundreds of wrongful convictions in the United States, the Innocence Project found that faulty eyewitness identification contributed up to 70 percent of those wrongful convictions. Eyewitness errors included mistakes in describing the age and facial distinctiveness of the suspect. These mistakes resulted from disguised appearances, too-brief sightings of the perpetrator, cross-gender and cross-racial bias, and changes in the viewing environment (from crime scene to police lineup).
POINTS: 2
DIFFICULTY: Moderate
REFERENCES: EYEWITNESS OBSERVATION
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
DATE CREATED: 7/8/2020 10:48 AM
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18. We can apply what we know about how the brain processes information to improve observation skills, including the fact that we _____.
    a. are naturally inclined to systematically examine our environments
    b. have difficulty looking for patterns in information from sensory inputs
    c. tend to commit important details of a crime scene to long-term memory
    d. are naturally inclined to filter out information we assume is unimportant

ANSWER: d
RATIONALE: We can apply what we know about how the brain processes information to improve our observation skills. We know that we are not naturally inclined to pay attention to all of the details of our surroundings. We know that we are naturally inclined to filter out information we assume is unimportant. We know that we are naturally inclined to interpret what we see, to look for patterns, and make connections. We know that our memories are faulty.

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Chapter 01 Forensic Science and Observation

POINTS: 2
DIFFICULTY: Moderate
REFERENCES: IMPROVING OBSERVATION SKILLS
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
DATE CREATED: 7/8/2020 10:51 AM
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19. An example of qualitative data documented at a crime scene is _____.
    a. one kilo of cocaine
    b. blood volume
    c. yellow liquid
    d. length of a stain

ANSWER: c
RATIONALE: Part of collecting physical evidence includes collecting data. Qualitative data is subjective, descriptive data, such as color or shape. We collect qualitative data using our senses. Quantitative data is objective—numerical data that can be measured, such as weight, height, and mass.
POINTS: 3
DIFFICULTY: Difficult
REFERENCES: WHAT DO FORENSIC SCIENTISTS DO?
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
DATE CREATED: 7/8/2020 10:57 AM
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20. The steps in the Claim Evidence Reasoning Model are _____.
    a. make observations, determine the question, make a claim, provide evidence, and provide reasoning
    b. state the problem, conduct an experiment, collect data, make a claim, and provide justification
    c. collect data, propose a hypothesis, conduct experiments, draw a conclusion, and provide reasoning
    d. determine the question, propose a hypothesis, collect data, analyze data, and provide support for claim

ANSWER: a
RATIONALE: Another method is the Claim Evidence Reasoning Model. Scientific explanations can be analyzed using this model. The steps include the following: (1) make observations; (2) determine what question you want to answer; (3) make a claim and an assertion based on evidence or observations; (4) provide evidence, scientific data that supports the claim; evaluate the evidence to determine if it is scientific, sufficient, reliable (consistent), and valid (properly collected and analyzed using accepted protocols and equipment or tools); and (5) provide reasoning or justification that links the claim with the evidence.
POINTS: 3
DIFFICULTY: Difficult
REFERENCES: WHAT DO FORENSIC SCIENTISTS DO?
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
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