Teacher Answer Key

Case Study

1. No single machine sees everything, so the amber alert did not decide anything — it triggered other layers with different strengths: CT imaging, a canine's nose, and a second swab. Each layer covered the others' blind spots until the picture was clear, exactly as layered security intends.
2. Trace detection identifies chemical residues, and innocent materials like fertilizer share markers with explosives. A sensor tuned loosely enough to never false-alarm would also miss real threats, so the system accepts occasional alarms and resolves them with additional layers and human judgment.

Multiple Choice

1. C
2. A
3. D

Matching

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

Fill-in-the-Blank

1) 2001, 2) 3D, 3) liquids

Short Answer (Sample Responses)

Q1: No single machine or rule detects every threat — each technology has blind spots, and attackers adapt to whatever single defense exists. Stacked layers mean a threat slipping past one defense meets another with different strengths, from CT scanners to canine teams to alert passengers.

Q2: Answers will vary. Example: a millimeter wave scanner sweeps the body with low-power, non-ionizing radio waves and reads reflections to find hidden objects of any material, displaying only a generic outline with a box marking where officers should check.

Q3: Answers will vary. Fair: shoes-off, 3-1-1, and body scanners each followed a specific failed plot, showing reaction rather than anticipation. Unfair: layered security caught or deterred later attempts, and current biometric and algorithmic tools attempt to get ahead of threats. Strong answers weigh both.