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| 1. From what material could evidence be found that might yield a conviction of "Tommy Karate"?   |  |  |  | | --- | --- | --- | |  | a. | Water samples | |  | b. | Soil | |  | c. | Grass and leaves | |  | d. | Wood samples |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| 2. In the "Grave Evidence" case, who was serving as an informant against the Gotti family?   |  |  |  | | --- | --- | --- | |  | a. | Gianni Gotti | |  | b. | "Tommy Karate" Pitera | |  | c. | "Willie Boy" Johnson | |  | d. | "Willie Boy" Gotti |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 3. What must occur in a physical change?   |  |  |  | | --- | --- | --- | |  | a. | A new substance must be formed. | |  | b. | The chemical identity of a material must change. | |  | c. | A material must decompose or be formed. | |  | d. | The state of matter must be altered. |  |  |  | | --- | --- | | *ANSWER:* | d | |

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| 4. What is a characteristic of a chemical change?   |  |  |  | | --- | --- | --- | |  | a. | A substance melts or freezes. | |  | b. | A material evaporates. | |  | c. | Both of the above. | |  | d. | None of the above. |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 5. Which of the following measures how much matter is contained in a sample?   |  |  |  | | --- | --- | --- | |  | a. | Mass | |  | b. | Volume | |  | c. | Density | |  | d. | Weight |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 6. Which of the following units measures volume?   |  |  |  | | --- | --- | --- | |  | a. | Kilograms | |  | b. | Pounds | |  | c. | Liters | |  | d. | Seconds |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 7. What does the prefix "milli-" mean on a unit?   |  |  |  | | --- | --- | --- | |  | a. | One one-thousandth of the unit | |  | b. | One thousand of the unit | |  | c. | One one-millionth of the unit | |  | d. | One million of the unit |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 8. Which of the following does the scientific method utilize?   |  |  |  | | --- | --- | --- | |  | a. | Collecting relevant data | |  | b. | Forming a hypothesis | |  | c. | Testing the hypothesis | |  | d. | All of the above |  |  |  | | --- | --- | | *ANSWER:* | d | |

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| 9. The scientific method tries to determine the nature of the problem.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 10. How many meters are in 830 mm?   |  |  |  | | --- | --- | --- | |  | a. | 0.083 m | |  | b. | 0.830 m | |  | c. | 8.30 m | |  | d. | 83.0 m |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| 11. What is the conversion factor between centimeters and inches?   |  |  |  | | --- | --- | --- | |  | a. | 1 m / 2.54 cm | |  | b. | 1 cm / 2.54 in | |  | c. | 2.54 in / 1 cm | |  | d. | 2.54 cm / 1 in |  |  |  | | --- | --- | | *ANSWER:* | d | |

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| 12. How many meters are in 0.645 km?   |  |  |  | | --- | --- | --- | |  | a. | 645 m | |  | b. | 64.5 m | |  | c. | 6450 m | |  | d. | 6.45 m |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 13. The length 3.0 ft contains how many centimeters?   |  |  |  | | --- | --- | --- | |  | a. | 300.0 cm | |  | b. | 30.0 cm | |  | c. | 9.14 cm | |  | d. | 91.4 cm |  |  |  | | --- | --- | | *ANSWER:* | d | |

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| 14. What is the difference between mass and weight?   |  |  |  | | --- | --- | --- | |  | a. | All matter has weight, but not all matter has mass. | |  | b. | Weight is a measure of the pull of matter to a scale or measuring device, while mass is a measure of how much matter weighs. | |  | c. | All matter has mass, but only limited amounts have weight. | |  | d. | Weight is a measure of the pull of matter to the earth, while mass is a measure of how much matter is in a sample. |  |  |  | | --- | --- | | *ANSWER:* | d | |

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| 15. Burning is an example of a physical change.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| 16. What is 3.83 m in cm?   |  |  |  | | --- | --- | --- | |  | a. | 383 cm | |  | b. | 38.3 cm | |  | c. | 3830 cm | |  | d. | 0.00383 cm |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 17. How many millimeters are in a centimeter?   |  |  |  | | --- | --- | --- | |  | a. | 0.01 | |  | b. | 1000 | |  | c. | 100 | |  | d. | 10 |  |  |  | | --- | --- | | *ANSWER:* | d | |

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| 18. How is weight commonly measured?   |  |  |  | | --- | --- | --- | |  | a. | With a thermometer | |  | b. | In milligrams | |  | c. | With a scale | |  | d. | In metric units |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 19. What is the abbreviation for liters, a unit of volume?   |  |  |  | | --- | --- | --- | |  | a. | L | |  | b. | Lt | |  | c. | Ls | |  | d. | lt |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 20. Mass is always measured in grams.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| 21. A gram is a smaller unit of mass than a kilogram.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 22. There are 10,000 meters in a kilometer.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| 23. How many numbers in a scientific measurement are always an estimate?   |  |  |  | | --- | --- | --- | |  | a. | 1 | |  | b. | 2 | |  | c. | 3 | |  | d. | At least 2 |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 24. What does the term "significant figure" mean?   |  |  |  | | --- | --- | --- | |  | a. | All digits in a number that are known exactly. | |  | b. | The first digit in a number that is known exactly, plus one that is an estimate. | |  | c. | All digits in a number that are known exactly, plus one that is an estimate. | |  | d. | None of the above. |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 25. The number 3.26 × 10–4 is represented in scientific notation. How many significant figures does it have?   |  |  |  | | --- | --- | --- | |  | a. | 4 | |  | b. | 3 | |  | c. | 2 | |  | d. | 1 |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| 26. How many milligrams are there in 0.002 g?   |  |  |  | | --- | --- | --- | |  | a. | 0.2 | |  | b. | 2 | |  | c. | 20 | |  | d. | 200 |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| 27. Convert 830 mL to L:   |  |  |  | | --- | --- | --- | |  | a. | 83.0 | |  | b. | 0.083 | |  | c. | 0.83 | |  | d. | 8.30 |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 28. How many milliliters are in 0.468 L?   |  |  |  | | --- | --- | --- | |  | a. | 468 | |  | b. | 46.8 | |  | c. | 4.68 | |  | d. | 0.0468 |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 29. 23.9 mg is the same as 0.239 g.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| 30. How many centimeters are there in 2.54 in.?   |  |  |  | | --- | --- | --- | |  | a. | 6.45 | |  | b. | 1.00 | |  | c. | 5.08 | |  | d. | 15.48 |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 31. How many yards are in 153 ft.?   |  |  |  | | --- | --- | --- | |  | a. | 12.75 | |  | b. | 1836 | |  | c. | 51 | |  | d. | 459 |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 32. Convert 3.5 ft. to cm.   |  |  |  | | --- | --- | --- | |  | a. | 0.75 | |  | b. | 1.4 | |  | c. | 8.9 | |  | d. | 107 |  |  |  | | --- | --- | | *ANSWER:* | d | |

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| 33. There are 3 yards in a foot.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| 34. How many grams are there in a sample of salt weighing 1908 mg?   |  |  |  | | --- | --- | --- | |  | a. | 190.8 | |  | b. | 19.08 | |  | c. | 1.908 | |  | d. | 0.1908 |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 35. How many yards are there in 342 cm?   |  |  |  | | --- | --- | --- | |  | a. | 0.374 | |  | b. | 4104 | |  | c. | 869 | |  | d. | 3.74 |  |  |  | | --- | --- | | *ANSWER:* | d | |

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| 36. Twenty yards is the same as how many meters?   |  |  |  | | --- | --- | --- | |  | a. | 60 | |  | b. | 20 | |  | c. | 183 | |  | d. | 18.3 |  |  |  | | --- | --- | | *ANSWER:* | d | |

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| 37. How many milliliters are there in 13.500 L?   |  |  |  | | --- | --- | --- | |  | a. | 1350.0 | |  | b. | 13,500 | |  | c. | 135.00 | |  | d. | 0.13500 |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| 38. The average of two numbers is 1.983. How is this best expressed to three significant figures?   |  |  |  | | --- | --- | --- | |  | a. | 2.00 | |  | b. | 1.90 | |  | c. | 1.99 | |  | d. | 1.98 |  |  |  | | --- | --- | | *ANSWER:* | d | |

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| 39. What is the answer, to the correct number of significant figures, to the following: 10.34 + 9.4 = \_\_\_\_?   |  |  |  | | --- | --- | --- | |  | a. | 19.74 | |  | b. | 19.7 | |  | c. | 19.0 | |  | d. | 19.8 |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| 40. How many significant figures are in the number 1.0043?   |  |  |  | | --- | --- | --- | |  | a. | 5 | |  | b. | 3 | |  | c. | 2 | |  | d. | 1 |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 41. When two length measurements were summed, the answer came to 3.416 m. What is this when represented to three significant figures?   |  |  |  | | --- | --- | --- | |  | a. | 3.415 m | |  | b. | 3.41 m | |  | c. | 3.42 m | |  | d. | 3.40 m |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 42. How many significant figures are there in the number 0.00204?   |  |  |  | | --- | --- | --- | |  | a. | 3 | |  | b. | 2 | |  | c. | 4 | |  | d. | 5 |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 43. The number 13.0 has how many significant figures?   |  |  |  | | --- | --- | --- | |  | a. | 2 | |  | b. | 3 | |  | c. | 1 | |  | d. | 4 |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| 44. How many significant figures are there in the number 1027?   |  |  |  | | --- | --- | --- | |  | a. | 4 | |  | b. | 3 | |  | c. | 2 | |  | d. | 1 |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 45. How many significant figures does the number 23.120 have?   |  |  |  | | --- | --- | --- | |  | a. | 3 | |  | b. | 4 | |  | c. | 5 | |  | d. | 6 |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 46. How many significant figures are there in the number 12,100?   |  |  |  | | --- | --- | --- | |  | a. | 3 | |  | b. | 5 | |  | c. | Both of the above are possible. | |  | d. | Neither of the above is possible. |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 47. The number 8.03 contains how many significant figures?   |  |  |  | | --- | --- | --- | |  | a. | 3 | |  | b. | 2 | |  | c. | 1 | |  | d. | 4 |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 48. How many significant figures are there in the number 100,000?   |  |  |  | | --- | --- | --- | |  | a. | 1 | |  | b. | 2 | |  | c. | 6 | |  | d. | A or C, depending on how the number was obtained |  |  |  | | --- | --- | | *ANSWER:* | d | |

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| 49. Good accuracy and good precision in three measurements means that all three have what in common?   |  |  |  | | --- | --- | --- | |  | a. | Values close to each other and close to the true value | |  | b. | Values close to each other | |  | c. | Values close to the true value | |  | d. | Values close to the true value, but not necessarily close to each other |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 50. If a true value is 1.76 m, how are the following measurements of it best defined: 1.92 m, 1.91 m, and 1.94 m?   |  |  |  | | --- | --- | --- | |  | a. | Neither accurate nor precise | |  | b. | Accurate, but not precise | |  | c. | Precise, but not accurate | |  | d. | Both accurate and precise |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 51. Which is the best definition of accuracy?   |  |  |  | | --- | --- | --- | |  | a. | How close theoretical results are to a true or real value | |  | b. | How close experimental results are to a theoretical or real value | |  | c. | How close experimental results are to a true or real value | |  | d. | How often results can be obtained in repeated measurements |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 52. How many significant figures should the answer to the following equation have? 2.3 × 13.669 = \_\_\_\_   |  |  |  | | --- | --- | --- | |  | a. | 1 | |  | b. | 2 | |  | c. | 3 | |  | d. | 4 |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| 53. The answer to the following calculation should have how many significant figures? 12.0112 × 32.3 = \_\_\_\_   |  |  |  | | --- | --- | --- | |  | a. | 2 | |  | b. | 3 | |  | c. | 4 | |  | d. | 5 |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| 54. How many significant figures should the answer to the following calculation have? 18.03 / 9.2 = \_\_\_\_\_   |  |  |  | | --- | --- | --- | |  | a. | 1 | |  | b. | 2 | |  | c. | 3 | |  | d. | 4 |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| 55. How many significant figures should the answer to this question have? 14 + 3.078 = \_\_\_\_   |  |  |  | | --- | --- | --- | |  | a. | 2 | |  | b. | 3 | |  | c. | 4 | |  | d. | 5 |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 56. When a material floats, what is its density?   |  |  |  | | --- | --- | --- | |  | a. | Above 0.5 g/ml | |  | b. | Above 1.0 g/ml | |  | c. | At or above 1.0 g/ml | |  | d. | Less than 1.0 g/ml |  |  |  | | --- | --- | | *ANSWER:* | d | |

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| 57. What two measurements determine density, and in what relationship to each other?   |  |  |  | | --- | --- | --- | |  | a. | Volume multiplied by mass | |  | b. | Mass multiplied by volume | |  | c. | Mass divided by volume | |  | d. | Volume divided by mass |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 58. Which of the following represent three measurements that are the most precise?   |  |  |  | | --- | --- | --- | |  | a. | 1.35, 1.20, and 1.28 | |  | b. | 1.02, 0.82, and 1.87 | |  | c. | 1.11, 1.93, and 1.90 | |  | d. | 1.20, 1.22, and 1.19 |  |  |  | | --- | --- | | *ANSWER:* | d | |

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| 59. Which of the following represent three measurements that are the least precise?   |  |  |  | | --- | --- | --- | |  | a. | 2.34, 2.40, and 2.37 | |  | b. | 14.2, 14.1, and 14.3 | |  | c. | 3.45, 45.3, and 13.1 | |  | d. | 35.2, 35.5, and 35.4 |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 60. Accuracy is several measurements compared against a true, known value.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 61. If a true value for the mass of a sample is 0.100 g, which of the following is the most accurate?   |  |  |  | | --- | --- | --- | |  | a. | 0.105 g | |  | b. | 0.099 g | |  | c. | 0.104 g | |  | d. | 0.093 g |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| 62. If a sample has a mass of 2.370 g, which of the following other readings is the most accurate?   |  |  |  | | --- | --- | --- | |  | a. | 2.330 g | |  | b. | 2.368 g | |  | c. | 2.450 g | |  | d. | 2.373 g |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| 63. A sample has a mass of 0.002 g. Which of the following is the most accurate comparison measurement of it?   |  |  |  | | --- | --- | --- | |  | a. | 0.001 g | |  | b. | 0.004 g | |  | c. | 0.005 g | |  | d. | 0.006 g |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 64. If a true value for the mass of a sample is 1300 g, which of the following is the most accurate?   |  |  |  | | --- | --- | --- | |  | a. | 1200 g | |  | b. | 1295 g | |  | c. | 1350 g | |  | d. | 1310 g |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| 65. What is the density of a material with a mass of 23.9 g and a volume of 27.5 mL?   |  |  |  | | --- | --- | --- | |  | a. | 51.4 g/mL | |  | b. | 1.15 g/mL | |  | c. | 3.60 g/mL | |  | d. | 0.869 g/mL |  |  |  | | --- | --- | | *ANSWER:* | d | |

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| 66. What is the density of a material with a mass of 1.20 g and a volume of 13.5 mL?   |  |  |  | | --- | --- | --- | |  | a. | 12.3 g/mL | |  | b. | 16.2 g/mL | |  | c. | 0.0889 g/mL | |  | d. | 14.7 g/mL |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 67. What is the density of a sample with a volume of 10.0 mL and a mass of 13.9 g?   |  |  |  | | --- | --- | --- | |  | a. | 1.39 g/mL | |  | b. | 3.90 g/mL | |  | c. | 139.0 g/mL | |  | d. | 0.719 g/mL |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 68. How dense is a powdered material with a mass of 9.8 g and a volume of 1.2 mL?   |  |  |  | | --- | --- | --- | |  | a. | 11.0 g/mL | |  | b. | 0.122 g/mL | |  | c. | 8.2 g/mL | |  | d. | 7.7 g/mL |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 69. What is the density of a liquid sample with a mass of 22.0 g and a volume of 10.9 mL?   |  |  |  | | --- | --- | --- | |  | a. | 32.9 g/mL | |  | b. | 11.1 g/mL | |  | c. | 2.02 g/mL | |  | d. | 22.0 g/mL |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 70. A chemical with a mass of 3.2 g and a volume of 4.1 mL has what density?   |  |  |  | | --- | --- | --- | |  | a. | 0.9 g/mL | |  | b. | 7.3 g/mL | |  | c. | 13.1 g/mL | |  | d. | 0.78 g/mL |  |  |  | | --- | --- | | *ANSWER:* | d | |

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| 71. The density of a sample with a mass of 3.9 g and a volume of 2.8 mL is 0.72 g/mL.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| 72. Liquids are not always less dense than solids.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 73. What is the mass of a material with a density of 2.22 g/mL and a volume of 5.11 mL?   |  |  |  | | --- | --- | --- | |  | a. | 2.30 g | |  | b. | 11.3 g | |  | c. | 0.434 g | |  | d. | 2.89 g |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| 74. A sample with a density of 6.01 g/mL and a volume of 1.97 mL has what mass?   |  |  |  | | --- | --- | --- | |  | a. | 0.328 g | |  | b. | 3.05 g | |  | c. | 11.8 g | |  | d. | 4.04 g |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 75. What is the mass of a metal with a density of 10.98 g/mL and a volume of 0.900 mL?   |  |  |  | | --- | --- | --- | |  | a. | 9.88 g | |  | b. | 10.08 g | |  | c. | 0.082 g | |  | d. | 11.88 g |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 76. A chemical sample with a mass of 10.0 g and a volume of 5.00 mL has to have a density of 3.00 g/mL.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| 77. How much mass does a sample with a density of 1.23 g/mL and a volume of 6.14 mL have?   |  |  |  | | --- | --- | --- | |  | a. | 4.99 g | |  | b. | 4.91 g | |  | c. | 7.55 g | |  | d. | 7.37 g |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 78. What is the mass of a material with a density of 12.42 g/mL and a volume of 1.33 mL?   |  |  |  | | --- | --- | --- | |  | a. | 16.5 g | |  | b. | 11.09 g | |  | c. | 0.107 g | |  | d. | 13.75 g |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 79. What is the mass of a sample with a volume of 2.45 mL and a density of 3.42 g/mL?   |  |  |  | | --- | --- | --- | |  | a. | 1.40 g | |  | b. | 0.716 g | |  | c. | 8.38 g | |  | d. | 0.970 g |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 80. A chemical sample with a density of 7.25 g/mL and a volume of 1.99 mL has what mass?   |  |  |  | | --- | --- | --- | |  | a. | 3.64 g | |  | b. | 5.26 g | |  | c. | 0.274 g | |  | d. | 14.4 g |  |  |  | | --- | --- | | *ANSWER:* | d | |

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| 81. What is the volume of a material with a density of 2.22 g/mL and a mass of 5.11 g?   |  |  |  | | --- | --- | --- | |  | a. | 2.89 mL | |  | b. | 11.3 mL | |  | c. | 0.434 mL | |  | d. | 2.30 mL |  |  |  | | --- | --- | | *ANSWER:* | d | |

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| 82. A liquid sample with a density of 5.25 g/mL and a mass of 1.11 g has what volume?   |  |  |  | | --- | --- | --- | |  | a. | 5.83 mL | |  | b. | 0.211 mL | |  | c. | 4.73 mL | |  | d. | 4.14 mL |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| 83. What is the volume of a material with a density of 1.72 g/mL and a mass of 5.55 g?   |  |  |  | | --- | --- | --- | |  | a. | 9.55 mL | |  | b. | 0.310 mL | |  | c. | 3.23 mL | |  | d. | 3.83 mL |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 84. A sample with a density of 4.28 g/mL and a mass of 1.71 g has what volume?   |  |  |  | | --- | --- | --- | |  | a. | 0.400 mL | |  | b. | 7.32 mL | |  | c. | 2.50 mL | |  | d. | 2.57 mL |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 85. What is the volume of a substance with a density of 1.29 g/mL and a mass of 3.11 g?   |  |  |  | | --- | --- | --- | |  | a. | 2.41 mL | |  | b. | 4.01 mL | |  | c. | 1.82 mL | |  | d. | 0.415 mL |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 86. What is the volume of a liquid, chemical sample with a density of 2.11 g/mL and a mass of 4.80 g?   |  |  |  | | --- | --- | --- | |  | a. | 10.13 mL | |  | b. | 0.440 mL | |  | c. | 2.69 mL | |  | d. | 2.27 mL |  |  |  | | --- | --- | | *ANSWER:* | d | |

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| 87. A material with a density of 3.22 g/mL and a mass of 1.31 g has what volume?   |  |  |  | | --- | --- | --- | |  | a. | 4.22 mL | |  | b. | 0.407 mL | |  | c. | 1.91 mL | |  | d. | 4.53 mL |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| 88. What is the volume of a chemical sample with a density of 0.982 g/mL and a mass of 6.14 g?   |  |  |  | | --- | --- | --- | |  | a. | 5.16 mL | |  | b. | 0.160 mL | |  | c. | 6.25 mL | |  | d. | 6.03 mL |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 89. What is the volume of a material with a density of 6.02 g/mL and a mass of 7.89 g?   |  |  |  | | --- | --- | --- | |  | a. | 1.87 mL | |  | b. | 0.763 mL | |  | c. | 1.31 mL | |  | d. | 13.9 mL |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 90. What is the volume of a material with a density of 4.42 g/mL and a mass of 0.0051 kg?   |  |  |  | | --- | --- | --- | |  | a. | 1.2 mL | |  | b. | 866.7 mL | |  | c. | 0.0012 mL | |  | d. | 4.41 mL |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 91. What is the volume of a sample with a density of 1.23 g/mL and a mass of 0.023 kg?   |  |  |  | | --- | --- | --- | |  | a. | 19 mL | |  | b. | 0.0187 mL | |  | c. | 1.21 mL | |  | d. | 283 mL |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 92. What is the density of a material with a mass of 32.3 g and a volume of 22.8 mL?   |  |  |  | | --- | --- | --- | |  | a. | 736 g/mL | |  | b. | 55.1 g/mL | |  | c. | 9.50 g/mL | |  | d. | 1.42 g/mL |  |  |  | | --- | --- | | *ANSWER:* | d | |

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| 93. What is the density of a substance that has a mass of 112.1 g and a volume of 9.8 mL?   |  |  |  | | --- | --- | --- | |  | a. | 102.3 g/mL | |  | b. | 11 g/mL | |  | c. | 0.087 g/mL | |  | d. | 10.23 g/mL |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| 94. How dense is a material with a volume of 13.0 mL and a mass of 14.2 g?   |  |  |  | | --- | --- | --- | |  | a. | 1.09 g/mL | |  | b. | 1.20 g/mL | |  | c. | 0.92 g/mL | |  | d. | 27.2 g/mL |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 95. What is the density of a chemical sample with a mass of 0.020 kg and a volume of 11.1 mL?   |  |  |  | | --- | --- | --- | |  | a. | 0.0020 g/mL | |  | b. | 0.222 g/mL | |  | c. | 0.0018 g/mL | |  | d. | 1.8 g/mL |  |  |  | | --- | --- | | *ANSWER:* | d | |

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| 96. How dense is a material with a volume of 0.045 L and a mass of 376 g?   |  |  |  | | --- | --- | --- | |  | a. | 16.92 g/mL | |  | b. | 8355 g/mL | |  | c. | 8.4 g/mL | |  | d. | 16,920 g/mL |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 97. A piece of glass has a mass of 6.32 g and displaces 4.21 mL of water. What is its density?   |  |  |  | | --- | --- | --- | |  | a. | 26.6 g/mL | |  | b. | 1.50 g/mL | |  | c. | 2.11 g/mL | |  | d. | 0.666 g/mL |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| 98. A shard of glass with a mass of 7.37 g displaces 3.27 mL of water. What is the density of this sample?   |  |  |  | | --- | --- | --- | |  | a. | 2.25 g/mL | |  | b. | 4.10 g/mL | |  | c. | 24.1 g/mL | |  | d. | 10.2 g/mL |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 99. Several glass fragments from the same crash site have a total mass of 26.32 g and displace 12.11 mL of water. What is the density of this material?   |  |  |  | | --- | --- | --- | |  | a. | 2.17 g/mL | |  | b. | 14.21 g/mL | |  | c. | 0.46 g/mL | |  | d. | 4.34 g/mL |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 100. If a glass fragment has a mass of 12.78 g and a volume of 3.29 mL, what is its density?   |  |  |  | | --- | --- | --- | |  | a. | 9.49 g/mL | |  | b. | 0.257 g/mL | |  | c. | 6.39 g/mL | |  | d. | 3.88 g/mL |  |  |  | | --- | --- | | *ANSWER:* | d | |

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| 101. What is the density of a piece of glass that has a volume of 2.34 mL and a total mass of 8.42 g?   |  |  |  | | --- | --- | --- | |  | a. | 6.08 g/mL | |  | b. | 0.280 g/mL | |  | c. | 3.60 g/mL | |  | d. | 4.21 g/mL |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 102. What kind of change is the burning of wood to charcoal?   |  |  | | --- | --- | | *ANSWER:* | A chemical change | |

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| 103. To change a measurement from milliliters to centimeters, what kind of conversion is required?   |  |  | | --- | --- | | *ANSWER:* | A decimal multiplier | |

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| 104. What type of change occurs when a copper penny turns green?   |  |  | | --- | --- | | *ANSWER:* | A chemical change, oxidation | |

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| 105. How many centimeters are in 2.00 inches?   |  |  | | --- | --- | | *ANSWER:* | 5.08 | |

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| 106. How many significant figures are in the measurement 3.400 g?   |  |  | | --- | --- | | *ANSWER:* | Four | |

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| 107. When metal rusts, what sort of change has occurred?   |  |  | | --- | --- | | *ANSWER:* | Chemical | |

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| 108. If a material has a density of 2.00 g/mL and a volume of 2.00 mL, should its mass be greater than or less than 2.00 g?   |  |  | | --- | --- | | *ANSWER:* | Greater than 2.00 | |

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| 109. How many significant figures are in the mass of 0.0012g?   |  |  | | --- | --- | | *ANSWER:* | Two | |

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| 110. When snow melts, is this a physical or a chemical change?   |  |  | | --- | --- | | *ANSWER:* | Physical | |

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| 111. Assuming two materials have the same volume, but Sample 1 has a mass of 5.23 g and Sample 2 has a mass of 2.33 g, which is the more dense material?   |  |  | | --- | --- | | *ANSWER:* | Sample 1 | |

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| 112. What is the density of a steel sample that has a volume of 9.802 mL and a mass of 124.1 g?   |  |  | | --- | --- | | *ANSWER:* | 12.66 g/mL | |

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| 113. How is precision defined?   |  |  | | --- | --- | | *ANSWER:* | Precision is how reproducible a measurement is when the same material is analyzed multiple times. | |

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| 114. How many significant figures does the number 23.500 have?   |  |  | | --- | --- | | *ANSWER:* | Five | |

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| 115. How many significant figures does the number 0.0023 contain?   |  |  | | --- | --- | | *ANSWER:* | Two | |

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| 116. What is the density of water?   |  |  | | --- | --- | | *ANSWER:* | 1.00 g/mL | |

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| 117. What kind of change is ice melting?   |  |  | | --- | --- | | *ANSWER:* | Physical Change | |

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| 118. What is the density of a material with a mass of 28.04 g and a volume of 3.252 mL?   |  |  | | --- | --- | | *ANSWER:* | 8.622 g/mL | |

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| 119. What is the density of a liquid with a volume of 35.3 mL and a mass of 62.2 g?   |  |  | | --- | --- | | *ANSWER:* | 1.76 g/mL | |

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| 120. What is the density of a white powder with a mass of 12.5 g and a volume of 10.3 mL?   |  |  | | --- | --- | | *ANSWER:* | 1.21 g/mL | |

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| 121. What is the SI unit of time?   |  |  | | --- | --- | | *ANSWER:* | The second | |

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| 122. What is the density of an object with a mass of 13.0 g and a volume of 2.35 mL?   |  |  | | --- | --- | | *ANSWER:* | 5.53 g/mL | |

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| 123. What three physical characteristics of soil samples could have linked Tommy Karate Pitera to the killing?   |  |  | | --- | --- | | *ANSWER:* | Color, texture, and composition | |

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| 124. How did Pitera's shovel provide evidence of his burying bodies?   |  |  | | --- | --- | | *ANSWER:* | The shovel still had soil on it specific to the burial site. | |

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| 125. Why couldn't Pitera claim that soil samples on the shovel were from his yard?   |  |  | | --- | --- | | *ANSWER:* | Investigators sent samples of soil from his yard to the lab, which was found not to match the soil on the shovel. | |

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| 126. What characteristics of Staten Island soil are the same throughout the island?   |  |  | | --- | --- | | *ANSWER:* | Nothing really, soil from various areas differ significantly. | |

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| 127. Why was soil in the loop of a shovel able to link Tommy Karate Pitera to a crime site?   |  |  | | --- | --- | | *ANSWER:* | Because once soil from a site gets into the loop and fills it, no more different soil can replace it. | |