1. Which of the following numbers has the greatest number of significant figures?
   A. 0.00456   B. 45,600
   C. 5.003   D. 0.0304   (C)

   Explanation : 5.003 has 4 significant figures, which is the greatest among the given options.

2. What is the number of significant figures in 433.00?
   A. 2   B. 3
   C. 4   D. 5   (D)

   Explanation: All non-zero digits and trailing zeros after a decimal are significant. Hence, 433.00 has 5 significant figures.

3. Taking significant figures into account, what is the value of 9.99 m – 0.0099 m?
   A. 9.980 m
   B. 9.9 m
   C. 9.9801 m
   D. 9.98 m   (A)

   Explanation: Subtraction must follow the least number of decimal places. Here, the result is 9.980 m.

4. Which of the following statements is NOT true?
   A. A change of unit of measurement cannot change the number of significant figures
   B. All non-zero digits are significant
   C. The trailing zeros in a number without a decimal point are significant
   D. All of the above   (C)

   Explanation : Trailing zeros without a decimal point are NOT significant. For example, 1200 has only 2 significant figures unless written as 1.200×10^3.

5. Which rule applies when adding or subtracting numbers with significant figures?
   A. Result keeps the least number of significant figures
   B. Result keeps the least number of decimal places
   C. Result always has three significant figures
   D. Result has maximum decimal places possible   (B)

   Explanation: In addition/subtraction, the result must retain the same number of decimal places as the term with the least decimal places.

6. Which rule applies when multiplying or dividing numbers with significant figures?
   A. Retain the least number of decimal places
   B. Retain the maximum number of significant figures
   C. Retain the least number of significant figures
   D. Always round off to 2 significant figures   (C)

   Explanation: In multiplication/division, the result must keep the same number of significant figures as the factor with the least significant figures.

7. Which number has 3 significant figures?
   A. 0.0304
   B. 2005
   C. 3.500
   D. 36597   (A)

   Explanation: In 0.0304, only "3", "0" (between digits), and "4" are significant → 3 significant figures.

8. When rounding 2.745 to three significant figures, the result is:
   A. 2.74
   B. 2.75
   C. 2.746
   D. 2.70   (B)

   Explanation: If the dropped digit is 5, the preceding digit is raised when it is odd. So 2.745 becomes 2.75.

9. The measurement 3.500 has how many significant figures?
   A. 2   B. 3
   C. 4   D. 5   (C)

   Explanation: Trailing zeros in a number with a decimal point are significant. So 3.500 has 4 significant figures.

10. Which method helps avoid ambiguity in counting significant figures?
    A. Converting to SI units
    B. Converting to CGS units
    C. Writing in scientific notation
    D. Using fractions instead of decimals   (C)

    Explanation : Scientific notation ensures clarity, as all digits before the power of 10 are counted as significant.