

Class-11-Physics-Worksheet-1  
Chapter-1-Units and Measurement

1. The number of significant figures in 0.00450 is:

- A) 2
- B) 3
- C) 4
- D) 5

Explanation: Leading zeros are not significant; 4, 5, and the trailing zero after decimal are significant.

2. The number of significant figures in 100.0 is:

- A) 1
- B) 2
- C) 3
- D) 4

Explanation: Trailing zeros after a decimal point are significant.

3. Which of the following has 4 significant figures?

- A) 0.0050
- B) 2.030
- C) 100
- D) 0.0002

Explanation: Zeros between and after decimal are significant.

4. Result of  $2.5 \times 3.42$  (correct significant figures):

- A) 8.55
- B) 8.6
- C) 8.550
- D) 9

Explanation: Least significant figures = 2  $\rightarrow$  answer rounded to 2 s.f.

5. Result of  $12.11 + 0.3$  (correct significant figures):

- A) 12.41
- B) 12.4
- C) 12
- D) 12.410

Explanation: Addition rule  $\rightarrow$  least decimal places (1 decimal).

6. Number of significant figures in 0.02030:

- A) 3
- B) 4
- C) 5
- D) 2

Explanation: Significant digits = 2, 0, 3, 0.

7. Which is NOT a significant figure rule?

- A) Non-zero digits are significant
- B) Leading zeros are significant
- C) Trailing zeros after decimal are significant
- D) Zeros between digits are significant

Explanation: Leading zeros are NOT significant.

8. Round 0.5678 to 3 significant figures:

- A) 0.567
- B) 0.568
- C) 0.560
- D) 0.570

Explanation: 4th digit is 8 → round up.

9. Number of significant figures in  $6.022 \times 10^{23}$ :

- A) 3
- B) 4
- C) 23
- D) 6

Explanation: Only digits in coefficient matter.

10. Which number has infinite significant figures?

- A)  $1/3$
- B)  $\pi$
- C) Both A and B
- D) None

#### Dimensional Analysis – MCQs

11. Dimensions of force:

- A)  $[MLT^{-2}]$
- B)  $[ML^2T^{-2}]$
- C)  $[ML^{-1}T^{-2}]$
- D)  $[M^{-1}LT^{-2}]$

Explanation: Force = mass × acceleration.

12. Dimensions of work:

- A)  $[MLT^{-2}]$
- B)  $[ML^2T^{-2}]$
- C)  $[M^2LT^{-2}]$
- D)  $[ML^2T^{-1}]$

13. Dimensions of power:

- A)  $[ML^2T^{-3}]$
- B)  $[MLT^{-2}]$
- C)  $[ML^2T^{-2}]$

D)  $[M^0LT^{-3}]$

14. Which quantity is dimensionless?

A) Velocity

B) Strain

C) Force

D) Energy

15. Dimensions of gravitational constant (G):

A)  $[M^{-1}L^3T^{-2}]$

B)  $[MLT^{-2}]$

C)  $[ML^2T^{-2}]$

D)  $[M^{-2}L^3T^{-2}]$

16. Dimensions of Planck's constant:

A)  $[ML^2T^{-1}]$

B)  $[MLT^{-2}]$

C)  $[ML^2T^{-2}]$

D)  $[M^0LT^{-1}]$

17. Which equation is dimensionally correct?

A)  $v = u + at^2$

B)  $v^2 = u^2 + 2as$

C)  $s = ut + at$

D)  $v = u + a/t$

18. Dimensions of pressure:

A)  $[ML^{-1}T^{-2}]$

B)  $[MLT^{-2}]$

C)  $[ML^2T^{-2}]$

D)  $[M^{-1}LT^{-2}]$

19. Which method is used to check correctness of equations?

A) Graphical method

B) Dimensional analysis

C) Integration

D) Differentiation

20. Dimensions of velocity:

A)  $[LT^{-1}]$

B)  $[L^2T^{-1}]$

C)  $[LT^{-2}]$

D)  $[MLT^{-1}]$