

INDIAN SCHOOL NIZWA  
MATHEMATICS WORKSHEET-1  
CH-1 RELATIONS & FUNCTIONS

DATE: APRIL

CLASS :XI

1. Find the domain of the function  $f(x) = \frac{x^2 + 2x + 1}{x^2 - 8x + 12}$
2. Find the domain and range of the function  $f(x) = \sqrt{16 - x^2}$
3. Find a and b if  $(a - 1, b + 5) = (2, 3)$
4. If  $A = \{1, 3, 5\}$ ,  $B = \{2, 3\}$  find
  - I.  $A \times B$
  - II.  $B \times A$
5. Let  $A = \{1, 2\}$ ,  $B = \{2, 3, 4\}$ ,  $C = \{4, 5\}$ , find
  - (i)  $A \times (B \cap C)$
  - (ii)  $A \times (B \cup C)$
6. If  $P = \{1, 3\}$ ,  $Q = \{2, 3, 5\}$ , find the number of relations from A to B
7. If  $A = \{1, 2, 3, 5\}$  and  $B = \{4, 6, 9\}$ ,  $R = \{(x, y) : |x - y| \text{ is odd}, x \in A, y \in B\}$  Write R in roster form
8. If  $f(x) = x^3$ , find the value of  $\frac{f(5) - f(1)}{5 - 1}$
9. Find the domain of the real function,  $f(x) = \sqrt{x^2 - 4}$
10. Draw the graph of the Constant function,  $f : \mathbb{R} \rightarrow \mathbb{R}; f(x) = 2 \forall x \in \mathbb{R}$ . Also find its domain and range.