



<p>1 Which of the following is an ordered pair? (a) (p, q), $p \in P$ and $q \in Q$ (b) $[p, q]$, $p \in P$ and $q \in Q$ (c) $\{p, q\}$, $p \in P$ and $q \in Q$ (d) All of the above</p>	<p>2 If $A = \{a_1, a_2\}$ and $B = \{b_1, b_2, b_3, b_4\}$, then $A \times B$ is equal to (a) $\{(a_1, b_1), (a_2, b_2)\}$ (b) $\{(a_1, b_1), (a_2, b_2), (a_3, b_3), (a_4, b_4)\}$ (c) $\{(a_1, b_1), (a_1, b_2), (a_1, b_3), (a_1, b_4)\}$ (d) $\{(a_1, b_1), (a_1, b_2), (a_1, b_3), (a_1, b_4), (a_2, b_1), (a_2, b_2), (a_2, b_3), (a_2, b_4)\}$</p>
<p>3 The values of a and b, if ordered pair is $(2a - 5, 4) = (5, b + 6)$ (a) $-2, 5$ (b) $2, 5$ (c) $5, 2$ (d) $5, -2$</p>	<p>4 If $A = \{1, 2, 5, 6\}$ and $B = \{1, 2, 3\}$, then what is $(A \times B) \cap (B \times A)$ equal to? (a) $\{(1, 1), (2, 1), (6, 1), (3, 2)\}$ (b) $\{(1, 1), (1, 2), (2, 1), (2, 2)\}$ (c) $\{(1, 1), (2, 2)\}$ (d) $\{(1, 1), (1, 2), (2, 5), (2, 6)\}$</p>
<p>5 If $A \times B = \{(a, 1), (b, 3), (a, 3), (b, 1), (a, 2), (b, 2)\}$. Then, A and B is (a) $A = \{1, 3, 2\}$ and $B = \{a, b\}$ (b) $A = \{a, 1, 2\}$ and $B = \{b, 3\}$ (c) $A = \{a, b\}$ and $B = \{1, 2, 3\}$ (d) $A = \{a, b, 1\}$ and $B = \{a, b, 2, 3\}$</p>	<p>6 If $A = \{1, 2, 3, 4\}$ and $B = \{5, 6, 7, 8\}$ then which of the following are relations from A to B? (a) $R_1 = \{(1, 5), (2, 7), (3, 8)\}$ (b) $R_2 = \{(5, 2), (3, 7), (4, 7)\}$ (c) $R_3 = \{(6, 2), (3, 7), (4, 7)\}$ (d) All are correct</p>
<p>7 Let $n(A) = m$ and $n(B) = n$. Then, the total number of non-empty relations that can be defined from A to B is (a) m^n (b) $n^m - 1$ (c) $mn - 1$ (d) $2^{mn} - 1$</p>	<p>8 Let $A = \{a, b, c, d\}$ and $B = \{x, y, z\}$. What is the number of elements in $A \times B$? (a) 6 (b) 7 (c) 12 (d) 64</p>
<p>9 If a relation R is defined on the set Z of integers as follows $(a, b) \in R \Leftrightarrow a^2 + b^2 = 25$, then domain (R) is equal to (a) $\{3, 4, 5\}$ (b) $\{0, 3, 4, 5\}$ (c) $\{0, \pm 3, \pm 4, \pm 5\}$ (d) None of these</p>	<p>10 If $A = \{1, 2, 6\}$ and R be the relation defined on A by $R = \{(a, b) : a \in A, b \in A \text{ and } a \text{ divides } b\}$, then range of R is equal to (a) $\{1, 2\}$ (b) $\{2, 6\}$ (c) $\{1, 2, 6\}$ (d) None of these</p>
<p>11 The domain and range of the function f given by $f(x) = 2 - x - 5$ is (a) Domain = R^+, Range = $(-\infty, 1]$ (b) Domain = R, Range = $(-\infty, 2]$ (c) Domain = R, Range = $(-\infty, 2)$ (d) Domain = R^+, Range = $(-\infty, 2]$</p>	<p>12 The domain of the function $\sqrt{x^2 - 4}$ is: (a) R (b) $[-2, 2]$ (c) $R - (-2, 2)$ (d) $[0, 2]$</p>

<p>13 Let $A = \{1, 2, 3, 4\}$ and $B = \{1, 4, 9, 16, 25\}$ and R be a relation defined from A to B, as $R = \{(x, y) : x \in A, y \in B \text{ and } y = x^2\}$, then domain of R and codomain of R is</p> <p>(a) $\{1, 2, 3, 4\}$ and $\{1, 4, 9, 16, 25\}$ (b) $\{1, 4, 9, 16, 25\}$ and $\{1, 2, 3, 4\}$ (c) $\{1, 2, 3, 4\}$ and $\{1, 2, 3, 4, 9, 16, 25\}$ (d) None of the above</p>	<p>14 The range of the function $\frac{ x-4 }{x-4}, x \neq 4$ is:</p> <p>a) \mathbb{R} b) $\{-1, 1\}$ c) $[-1, 1]$ d) None of these</p>
<p>15 Is the given relation a function? $\{(3, 3), (4, 2), (5, 1), (6, 0), (7, 7)\}$</p> <p>(a) Yes (b) No (c) cannot say (d) Insufficient data</p>	<p>16 Domain of $\sqrt{a^2 - x^2}$ ($a > 0$) is</p> <p>(a) $(-a, a)$ (b) $[-a, a]$ (c) $[0, a]$ (d) $(-a, 0]$</p>

17 The graph of an identity function on \mathbb{R} is

18 If $A = \{1, 3, 6\}$ and $B = \{x, y\}$, then representation of cartesian products by an arrow diagrams of $A \cdot B$ is

- The answer will be discussed during the math lesson
