

9. Let $A = \{1, 2, 3, 4\}$ and $B = \{4, 8, 9, 10\}$. A function $f : A \rightarrow B$ given by $f = \{(1, 4), (2, 8), (3, 9), (4, 10)\}$ is a
- (1) Many-one function (2) Identity function
(3) One-to-one function (4) Into function
10. If $f(x) = 2x^2$ and $g(x) = \frac{1}{3x}$, then $f \circ g$ is
- (1) $\frac{3}{2x^2}$ (2) $\frac{2}{3x^2}$ (3) $\frac{2}{9x^2}$ (4) $\frac{1}{6x^2}$
11. If $f : A \rightarrow B$ is a bijective function and if $n(B) = 7$, then $n(A)$ is equal to
- (1) 7 (2) 49 (3) 1 (4) 14
12. Let f and g be two functions given by
- $f = \{(0, 1), (2, 0), (3, -4), (4, 2), (5, 7)\}$
- $g = \{(0, 2), (1, 0), (2, 4), (-4, 2), (7, 0)\}$ then the range of $f \circ g$ is
- (1) $\{0, 2, 3, 4, 5\}$ (2) $\{-4, 1, 0, 2, 7\}$ (3) $\{1, 2, 3, 4, 5\}$ (4) $\{0, 1, 2\}$
13. Let $f(x) = \sqrt{1 + x^2}$ then
- (1) $f(xy) = f(x) \cdot f(y)$ (2) $f(xy) \geq f(x) \cdot f(y)$
(3) $f(xy) \leq f(x) \cdot f(y)$ (4) None of these
14. If $g = \{(1, 1), (2, 3), (3, 5), (4, 7)\}$ is a function given by $g(x) = \alpha x + \beta$ then the values of α and β are
- (1) $(-1, 2)$ (2) $(2, -1)$ (3) $(-1, -2)$ (4) $(1, 2)$
15. $f(x) = (x + 1)^3 - (x - 1)^3$ represents a function which is
- (1) linear (2) cubic (3) reciprocal (4) quadratic

