ONE MARK TEST

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ENGLISH MEDIUM **LESSON – 1** **TEST - 2**

1 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

(A) (–1,2) (B)(2, –1) (C) (–1, –2) (D) (1,2)

2 If the ordered pairs $(a+2, 4)$ and $(5, 2a+b)$ are equal then (a, b) is

(A) (2, –2) (B) (5,1) (C) (2,3) (D) (3, –2)

3 $f(x) = (x+1)^3 - (x-1)^3$ represents a function which is

(A) linear (B) cubic (C) reciprocal (D) quadratic

4 If $f(x) = 2x^2$ and $g(x) = \frac{1}{3x}$, then $f \circ g$ is

(A) $\frac{3}{2x^2}$ (B) $\frac{2}{3x^2}$ (C) $\frac{2}{9x^2}$ (D) $\frac{1}{6x^2}$

5 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 (C) $2^{mn} - 1$ (D) 2^{mn}

6 The range of the relation $R = \{(x, x^2) \mid x$ is a prime number less than 13$\}$ is

(A) {2,3,5,7} (B) {2,3,5,7,11}

(C) {4,9,25,49,121} (D) {1,4,9,25,49,121}

7 If $f : A \to B$ is a bijective function and if $n(B) = 7$, then $n(A)$ is equal to

(A) 7 (B) 49 (C) 1 (D) 14

8 Let $f(x) = \sqrt{1+x^2}$ then

(A) $f(xy) = f(x).f(y)$ (B) $f(xy) \geq f(x).f(y)$

(C) $f(xy) \leq f(x).f(y)$ (D) None of these

9 If $\{(a,8),(6,b)\}$ represents an identity function, then the value of a and b are respectively

(A) (8,6) (B) (8,8) (C) (6,8) (D) (6,6)

10 If $A = \{1,2\}$, $B = \{1,2,3,4\}$, $C = \{5,6\}$ and $D = \{5, 6, 7, 8\}$ then state which of the following statement is true.

(A) $(A \times C) \subset (B \times D)$ (B) $(B \times D) \subset (A \times C)$

(C) $(A \times B) \subset (A \times D)$ (D) $(D \times A) \subset (B \times A)$