

LIVE WORK SHEET - 2

STD : X EM

MARK: 10

SUBJECT : MATHS

DATE:

TOPIC : 1. RELATIONS AND FUNCTIONS

NAME:

I Choose the Correct answer:

- 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) $(3, -2)$
- 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}
- 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) $(6, 6)$
- 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
(A) Many-one function (B) Identity function
(C) One-to-one function (D) Into function
- If $f(x) = 2x^2$ and $g(x) = \frac{1}{3x}$, then $f \bullet g$ is
(A) $\frac{1}{2x^2}$ (B) $\frac{2}{3x^2}$ (C) $\frac{2}{9x^2}$ (D) $\frac{1}{6x^2}$

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

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

7. 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 $f \bullet g$ is

- (A) $\{0, 2, 3, 4, 5\}$ (B) $\{-4, 1, 0, 2, 7\}$ (C) $\{1, 2, 3, 4, 5\}$ (D) $\{0, 1, 2\}$

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 $g = \{(1,1), (2, 3), (3, 5), (4, 7)\}$ 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) $(1, 2)$

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

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

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