



1. the number $\log_2 7$ is
 - a. an integer
 - b. a rational number
 - c. an irrational number
 - d. a prime number
 - e. none of these
2. if $A = \{1,2,3\}$, $B = \{3,4\}$, $C = \{4,5,6\}$, then $(A \times B) \cap (B \times C)$ is equal to
 - a. $\{1,4\}$
 - b. $\{3,4\}$
 - c. $\{(1,4),(3,4)\}$
 - d. $\{1,3\}$
 - e. None of these
3. If x and y are real, then $\frac{1}{2}(x+y-|x-y|) = x$ holds if
 - a. $X > Y$
 - b. $X < Y$
 - c. $X = Y$
 - d. $X \leq Y$
 - e. $X \geq Y$
4. If imaginary part of $\frac{2z+1}{iz+1}$ is -2 , then the locus of z is
 - a. Parabola
 - b. Circle
 - c. Pair of line
 - d. Straight line
 - e. None of these
5. The product of all the roots of the equation $x^2 - |x| - 6 = 0$ is
 - a. -9
 - b. 6
 - c. -18
 - d. 36
 - e. -3
6. If p, q, r three different real numbers, then value of $(p+q)(q+r)(r+p)$ is
 - a. $>8pqr$
 - b. $<8pqr$
 - c. $8pqr$