I. *Four* alternatives are given for each of the following questions / incomplete statements. Only one of them is correct or most appropriate. Choose the correct alternative and write the complete answer along with its letter of alphabet.

$8 \times 1 = 8$

1. A and B are two sets, such that $n(A) = 37$, $n(B) = 26$ and $n(A \cup B) = 51$; then $n(A \cap B)$ is

(A) 12 (B) 63

(C) 14 (D) 25

2. Geometric mean between $\frac{1}{2}$ and $\frac{1}{8}$ is

(A) 16 (B) $\frac{1}{16}$

(C) $\frac{1}{4}$ (D) 4

3. HCF of any two prime numbers is

(A) a prime number

(B) a composite number

(C) an odd number

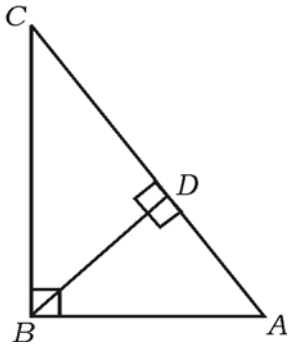
(D) an even number

4. If $f(x) = 2x^3 + 3x^2 - 11x + 6$ then the value of $f(-1)$ is

(A) 0 (B) – 10

(C) – 18 (D) 18

5. In $\triangle ABC$, $\angle ABC = 90°$, $BD \perp AC$. If $BD = 8$ cm and $AD = 4$ cm then the length of CD is



(A) 16 cm (B) 4 cm

(C) 64 cm (D) 12 cm

6. $\dfrac{\sin(90° - \theta)}{\cos(90° - \theta)}$ where 'θ' is acute, is equal to

(A) sec θ (B) cot θ

(C) tan θ (D) cosec θ

7. The co-ordinates of the mid-point of the line segment joining the points (2, 3) and (4, 7) are

(A) (– 3, – 5) (B) (1, 2)

(C) (3, 5) (D) (6, 10)

8. Formula used to find the surface area of a sphere whose radius is r unit, is

(A) πr^2 (B) $2\pi r^2$

(C) $3\pi r^2$ (D) $4\pi r^2$