Integration

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Comprehension

Differentiate I w.r.t. the parameter within the sign of integrals taking variable of the integrand as constant. Now, evaluate the integral so obtained as usual as a function of the parameter and then integrate the result to get I. Constant of integration can be computed by giving some arbitrary values to the parameter and the corresponding value of I.

1.The value of$\int_0^1 \frac{x^a-1}{logx}$dx is

(A) log(a-1)
(B) log(a+1)
(C) a log (a+1)
(D) None of these

2.The value of$\int_0^{\frac{\pi}{2}} log(sin^2\theta + k^2cos^2\theta)d\theta$,where k is greater then or equal to 0 ; is

(A) $\pi log(1+k) + \pi log(2)$
(B) $\pi log(1+k)$
(C) $\pi log(1+k) - \pi log(2)$
(D) $\pi log(1+k) - log(2)$

Answers

1. B

2. C