

(13) If the set A has p elements, B has q elements, then the number of elements in $A \times B$ is _____

- (a) $p+q$ (b) $p+q+1$ (c) pq (d) p^2

(14) The fourth vertex of the square formed by the points (2, 2), (4,3), (-2, 5) is _____

- (a) (2, 3) (b) (-3, 3) (c) (-4, 3) (d) (4, 3)

(15) $\int \frac{xe^x}{(1+x)^2} dx$ is equal to

- (a) $\frac{-e^x}{1+x}$ (b) $\frac{(1+2x)e^x}{1+x}$ (c) $\frac{(-1+2x)e^x}{1+x}$ (d) $\frac{e^x}{1+x}$

(16) The probability that a leap year selected at random will contain 53 Sundays is _____

- (a) $\frac{1}{7}$ (b) $\frac{2}{7}$ (c) $\frac{6}{7}$ (d) $\frac{3}{7}$

(17) The value of $\int_0^{\pi/2} e^{\sin x} \cos x dx$ is _____

- (a) 0 (b) 1 (c) -1 (d) $e - 1$

(18) $\lim_{x \rightarrow -\pi/4} \frac{1 + \tan x}{\cos 2x}$ is _____

- (a) 1 (b) 0 (c) -2 (d) -1

(19) If the mean of 1, 2, 3, ..., N is $\frac{6n}{11}$, then n is _____

- (a) 10 (b) 12 (c) 11 (d) 13

(20) The area bounded by the curve $y^2 = 2x$ and the lines $x = 1$, $x = 4$ and $y = 0$ in the first quadrant is _____

- (a) 7 (b) 14 (c) 28 (d) $\frac{14}{3}$

ANSWERS:

1. (b), 2. (b), 3. (c), 4. (c), 5. (b), 6. (b), 7. (c), 8. (c), 9. (b), 10. (b), 11.(b), 12. (b), 13. (c), 14. (c), 15. (d), 16. (b), 17. (d), 18. (a), 19. (c), 20. (d).