

Application of Derivatives

1. Surface area of cube = $6 \times \text{Side } a^2$
2. Volume of cube = a^3
3. Surface area of cuboid = $2(LB + BH + HL)$
4. Volume of cuboid = $L \times B \times H$
5. Curved Surface area of Cone = $\pi r l$
6. Total Surface area of Cone = $\pi r l + \pi r^2$
7. Volume of Cone = $\frac{1}{3} \pi r^2 h$
8. Curved surface area of cylinder = $2\pi r h$
9. Total Surface area of cylinder = $2\pi r (h + r)$
10. Volume of cylinder = $\pi r^2 h$
11. Surface area of sphere = $4\pi r^2$
12. Volume of sphere = $\frac{4}{3} \pi r^3$
13. Circumference of Circle = $2\pi r$
14. Area of Circle = πr^2
15. Perimeter of rectangle = $2(l + b)$
16. Area of rectangle = $l \times b$
17. Perimeter of Δ = $a + b + c$
18. Area of Δ = $\frac{1}{2} b \times h$
19. Pythagoras theorem = $(AC)^2 = (AB)^2 + (BC)^2$
 $= (H)^2 = (P)^2 + (B)^2$
- i) f is strictly increasing in (a, b) if $f'(x) > 0$ for each $x \in (a, b)$.
- ii) f is strictly decreasing in (a, b) if $f'(x) < 0$ for each $x \in (a, b)$.
- iii) A function will be increasing (decreasing) in R if it is increasing (decreasing) in every interval of R .