

NCERT/CBSE MATHEMATICS CLASS 11 textbook

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MISCELLANEOUS EXERCISES

Answers to NCERT/CBSE MATH (Class XI) textbook

Chapter 13.

LIMITS AND DERIVATIVES

Find the derivative of the following functions (it is to be understood that a, b, c, d, p, q, r and s are fixed non-zero constants and m and n are integers):

2. $(x + a)$

3. $(px + q) \left(\frac{r}{x} + s \right)$

4. $(ax + b)(cx + d)^2$

5. $\frac{ax + b}{cx + d}$

6. $\frac{1 + \frac{1}{x}}{1 - \frac{1}{x}}$

7. $\frac{1}{ax^2 + bx + c}$

8. $\frac{ax + b}{px^2 + qx + r}$

9. $\frac{px^2 + qx + r}{ax + b}$

10. $\frac{a}{x^4} - \frac{b}{x^2} + \cos x$

11. $4\sqrt{x} - 2$

12. $(ax + b)^n$

13. $(ax + b)^n (cx + d)^m$

14. $\sin(x + a)$

15. $\operatorname{cosec} x \cot x$

16. $\frac{\cos x}{1 + \sin x}$

4. $\frac{d}{dx} [(ax + b)(cx + d)^2] = (ax + b) \frac{d}{dx} [(cx + d)^2] + (cx + d)^2 \frac{d}{dx} [(ax + b)]$
 $= (ax + b) 2(cx + d) \cdot c + (cx + d)^2 \cdot a$
 $= (cx + d) [(ax + b) 2c + (cx + d) \cdot a]$
 $= (cx + d) [3acx + 2bc + ad]$

Please do not copy the answer given here

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