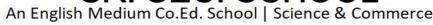# VIDYA SHREE ACADEMY
SR. SEC. SCHOOL
An English Medium Co.Ed. School | Science & Commerce

W : www.vsajaipur.com | E : vsajaipur@gmail.com M. : +91 9460356652, 8058999828

Add. : 84, Krishna Vihar, Behind Narayan Niwas, Gopalpura Bypass, Jaipur - 302015

/vsajaipur | /vsajaipur | /vidyashreeacademy | /vsa_jaipur

Class – 12th   **Chapter-7**   **Subject Maths**

Worksheet-26   Differentiation

Differentiate the following functions with respect to x

1. $\sin x^2$

2. $\tan(2x+3)$

3. $\sin\left\{\cos\left(x^2\right)\right\}$

4. $\dfrac{\sec x - 1}{\sec x + 1}$

5. $\dfrac{\sqrt{1+x} - \sqrt{1-x}}{\sqrt{1+x} + \sqrt{1-x}}$

6. $\sin x^\circ$

7. $\log_e \sqrt{\dfrac{1-\cos x}{1+\cos x}}$

8. $\sec x^\circ$

9. $\log \sqrt{\dfrac{1+\sin x}{1-\sin x}}$

10. $\log_e\left\{\dfrac{x+\sqrt{x^2+a^2}}{a}\right\}$

11. $\log_e\left\{\dfrac{x^2+x+1}{x^2-x+1}\right\}$

12. $\tan\left\{\log_e\sqrt{1+x^2}\right\}$

13. $a^{\tan 3x}$

14. $\log_e(\sec x + \tan x)$

15. $\sin^3 x . \sin 3x$