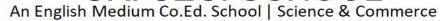


REE A





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Class - 12th

Chapter-7

Subject Maths

Worksheet-30

Differentiation

Find
$$\frac{dy}{dx}$$
, when

1. (a)
$$x = a \sec t$$
, $y = b \tan t$

2. (a)
$$x = \log t$$
, $y = e^t + \cos t$

3. (a)
$$x = \cos \theta - \cos 2\theta$$
, $y = \sin \theta - \sin 2\theta$

4. (a)
$$x = \frac{\sin^3 t}{\sqrt{\cos 2t}}, y = \frac{\cos^3 t}{\sqrt{\cos 2t}}$$

5. (a)
$$x = \sqrt{\sin 2\theta}$$
, $y = \sqrt{\cos 2\theta}$

(b)
$$x = \log t + \sin t$$
, $y = e^t + \cos t$

(b)
$$x = a\cos\theta$$
, $y = b\sin\theta$

(b)
$$x = \theta - \sin \theta$$
, $y = a(1 + \cos \theta)$

(b)
$$x = a \left(\cos t + \log \tan \frac{t}{2} \right), y = a \sin t$$

(b)
$$x = a \cos^3 t$$
, $y = a \sin^3 t$

6. If
$$x^3 + y^3 = t - \frac{1}{t}$$
 and $x^6 + y^6 = t^2 + \frac{1}{t^2}$, then prove that $x^4 y^2 \frac{dy}{dx} = 1$