TRIG IDENTITIES | CHAIN RULE | PRODUCT RULE

	A	B	C
1	$2\sin\theta\cos\theta$ (C) $1+\tan^2 x$	$\frac{dy}{dx}=-\frac{1}{2\sqrt{7-x}}$ (R) $x=3y^2-2y$ $x=8, y=2, \frac{dy}{dx}=?$	$\cos x$ (NE) $\sin 2\theta$
2	52 (I) $y=3x(2x+1)^{1/2}$ $x=4, y=36, \frac{dy}{dx}=?$	$\sec\theta$ (TO) $\sec^2 x\cos^5 x+\cot x\operatorname{cosec} x\sin^4 x$	300 (OL) $\cot x=\sqrt{3}$ $180<x<360$
3	$\frac{dy}{dx}=6(3x^2+2)(x^3+2x)^5$ (W) $y=\frac{(5x^4+1)^{16}}{320}$	$\frac{dy}{dx}=340x^3(5x^4+1)^{16}$ (O) $y=(x^3+2x)^6$	30 (GH) $\sec x=2$ $180<x<360$
4	$\sin\theta$ (S) $\cos\theta+\sin\theta\tan\theta$	$\cos\theta$ (O) $-\tan\theta\cot\theta$	$\frac{dy}{dx}=3\sin x+3x\cos x$ (T) $y=4\sin 2x$
5	1 (N) $y=\sin^2 x$	$\sec^2 x$ (O) $y=(2x^2+5)^2$	$16/3$ (PP) $y=x^2(3x-1)^3$ $x=1, y=8, \frac{dy}{dx}=?$
6	$\frac{dy}{dx}=2\sin x\cos x$ (TD) $y=\sqrt{7-x}$	$\frac{dy}{dx}=8\cos 2x$ (A) $2+\cot^2 x-\operatorname{cosec}^2 x$	-1 (U) $\tan 2\theta\operatorname{cosec} 2\theta$
7	$\sec 2\theta$ (TA) $\cos\theta\sin^2\theta(\cot\theta+\tan\theta)$	$\frac{dy}{dx}=x^3(5x^4+1)^{15}$ (S) $\sin\theta\cot\theta$	210 (L) $y=(5x^4+1)^{17}$
8	$\frac{dy}{dx}=8x(2x^2+5)$ (NS) $y=3x\sin x$	$\frac{dy}{dx}=\frac{1}{10}$ (I) $x=y^{1/2}+y^{-1/2}$ $x=\frac{5}{2}, y=4\ \frac{dy}{dx}=?$	13 (N) $\sin x=0.5$ $0\leq x\leq 90°$

Answers

A1	C	$1+\tan^2 x$	$\sec^2 x$	B5
B5	O	$y=(2x^2+5)^2$	$\frac{dy}{dx}=8x(2x^2+5)$	A8
A8	NS	$y=3x\sin x$	$\frac{dy}{dx}=3\sin x+3x\cos x$	C4
C4	T	$y=4\sin 2x$	$\frac{dy}{dx}=8\cos 2x$	B6
B6	A	$2+\cot^2 x-\operatorname{cosec}^2 x$	1	A5
A5	N	$y=\sin^2 x$	$\frac{dy}{dx}=2\sin x\cos x$	A6
A6	TD	$y=\sqrt{7-x}$	$\frac{dy}{dx}=-\frac{1}{2}(7-x)^{-1/2}$	B1
B1	R	$x=3y^2-2y$	$\frac{dy}{dx}=\frac{1}{10}$	B8
B8	I	$x=y^{1/2}+y^{-1/2}$	$\frac{dy}{dx}=16/3$	C5
C5	PP	$y=x^2(3x-1)^3$	$\frac{dy}{dx}=52$	A2
A2	I	$y=3x(2x+1)^{1/2}$	$\frac{dy}{dx}=13$	C8
C8	N	$\sin x=0.5$	30	C3
C3	GH	$\sec x=2$	300	C2
C2	OL	$\cot x=\sqrt{3}$	210	C7
C7	L	$y=(5x^4+1)^{17}$	$\frac{dy}{dx}=340(5x^4+1)^{16}x^3$	B3
B3	O	$y=(x^3+2x)^6$	$\frac{dy}{dx}=6(3x^2+2)(x^3+2x)^5$	A3
A3	W	$y=(5x^4+1)^{16}/320$	$\frac{dy}{dx}=(5x^4+1)^{15}x^3$	B7
B7	S	$\sin\theta\cot\theta$	$\cos\theta$	B4
B4	O	$-\tan\theta\cot\theta$	-1	C6
C6	U	$\tan 2\theta\operatorname{cosec} 2\theta$	$\sec 2\theta$	A7
A7	TA	$\cos\theta\sin^2\theta(\cot\theta+\tan\theta)$	$\sin\theta$	A4
A4	S	$\cos\theta+\sin\theta\tan\theta$	$\sec\theta$	B2
B2	TO	$\sec^2 x\cos^5 x+\cot x\sec x\sin^4 x$	$\cos x$	C1
C1	NE	$\sin 2\theta$	$2\sin\theta\cos\theta$	A1