<u>**Section 6.1:** (**Verifying Identities**)</u>
<u>**Answer True or False for each given equation .**</u>

1) $\sin(-\theta)\tan(-\theta)+\cos(-\theta)=\sec\theta$, **2)** $\sin^4\theta-\cos^4\theta=\sin^2\theta-\cos^2\theta$

3) $\cos^2\theta-\sin^2(-\theta)=1$, **4)** $\sec\theta-\cos\theta=\sin\theta\tan\theta$, **5)** $\dfrac{\sin\theta+\tan\theta}{1+\cos\theta}=\tan\theta$

6) $\sin^2\theta-\cos^2\theta=2\sin^2\theta-1$, **7)** $\tan\theta+\cot\theta=\sec\theta\csc\theta$,

8) $\cos^2\theta(1+\tan^2\theta)=1$, **9)** $(\csc^2\theta-1)\sin^2\theta=\cos^2\theta$,

10) $\cos^2\theta(1-\sec^2\theta)=\sin^2\theta$, **11)** $(\sin\theta-\cos\theta)^2=\sin^2\theta+\cos^2\theta$

12) $(\sin^2\theta+\cos^2\theta)^{\frac{1}{2}}=\sin\theta+\cos\theta$, **13)** $\dfrac{\csc\theta}{\sin\theta-\csc\theta}=\sec^2\theta$

14) $\dfrac{\sec\theta-\cos\theta}{\tan\theta}=\sin\theta$, **15)** $\dfrac{\tan(-\theta)+\cot(-\theta)}{\tan(-\theta)}=\csc^2\theta$,

16) $\dfrac{1}{\csc(-\theta)}+\dfrac{\cot(-\theta)}{\sec(-\theta)}=-\csc\theta$, **17)** $\dfrac{\tan(-\theta)}{\sec(-\theta)}=\sin\theta$,

18) $\dfrac{\sin\theta}{1-\cos\theta}-\dfrac{\sin\theta}{1+\cos\theta}=2\cot\theta$, **19)** $\dfrac{\csc^2\theta-1}{\csc^2\theta}=\cos^2\theta$,

20) $\dfrac{1-\cos\theta}{\sin\theta}+\dfrac{\sin\theta}{1-\cos\theta}=2\sec\theta$, **21)** $\dfrac{\csc(-\theta)}{\cot(-\theta)}=\sec\theta$,

22) $\dfrac{1-\sin\theta}{\tan\theta}=\cot\theta-\cos\theta$, **23)** $\dfrac{\tan\theta+\cot\theta}{\sin\theta\cos\theta}=\sec^2\theta\csc^2\theta$,

24) $\dfrac{\sec\theta}{\sin\theta+\sec\theta}=\csc\theta$, **25)** $\dfrac{\csc\theta}{\sec\theta}=\tan\theta$, **26)** $\dfrac{\cos^2\theta-1}{\cos^2\theta}=\tan^2\theta$,

27) $\dfrac{\csc\theta}{1+\csc\theta}=\dfrac{1}{\sin\theta+1}$, **28)** $\sec\theta=\dfrac{\cot\theta+\tan\theta}{\csc\theta}$, **29)** $\dfrac{\cos\theta+\cot\theta\sin\theta}{\cot\theta}=2\sin\theta$,

30) $\dfrac{1}{\sec\theta-\tan\theta}=\sec\theta+\tan\theta$, **31)** $\dfrac{\sin(-\theta)}{\tan(-\theta)}=\sec\theta$, **32)** $\dfrac{\sin(-\theta)\sec\theta}{\tan(-\theta)}=1$,

33) $\dfrac{1+\tan^2(-\theta)}{\csc^2(-\theta)}=\tan^2\theta$, 34) $\dfrac{\cot^2\theta+1}{\tan^2\theta+1}=\cot^2\theta$, 35) $\dfrac{\sec\theta+\csc\theta}{\cos\theta+\sin\theta}=\sec\theta\csc\theta$,

36) $\dfrac{\sec\theta}{\tan\theta+\cot\theta}=\sin\theta$, 37) $(\tan\theta+1)^2=\sec^2\theta+2\tan\theta$, 38) $\dfrac{\tan\theta\sin\theta}{\sec^2\theta-1}=\cos\theta$,

39) $\dfrac{1+\sin\theta}{\cos\theta}=\dfrac{\cos\theta}{1-\sin\theta}$, 40) $\dfrac{\cot\theta\cos\theta}{\csc^2\theta-1}=\csc\theta$, 41) $\dfrac{\cos\theta}{\cos\theta-\sec\theta}=-\tan^2\theta$,

42) $(\cos\theta-\sin\theta)(\cos\theta+\sin\theta)=1-2\sin^2\theta$, 43) $\dfrac{\cos\theta-\sec\theta}{\sec\theta}=\sin^2\theta$,

44) $\dfrac{\sin\theta}{\csc\theta-\sin\theta}=\tan^2\theta$, 45) $\dfrac{\sin\theta}{\cos\theta+\sin\theta}=\dfrac{1}{\cos\theta}$,

46) $\dfrac{2\cos^2\theta}{\sin^2\theta+1-2\sin\theta+\cos^2\theta}=1+\sin\theta$, 47) $\dfrac{1+\sec\theta+\tan^2\theta}{1+\sec\theta}=\sec\theta$,

48) $\dfrac{\cot\theta-1}{\csc^2\theta-\cot\theta-1}=\tan\theta$, 49) $\dfrac{1-\cos\theta}{1-\cos\theta-\sin^2\theta}=-\sec\theta$,

50) $\dfrac{\sin^2\theta}{1-\cos\theta}=1+\cos\theta$, 51) $\dfrac{\sec\theta}{\sec\theta-1}-\dfrac{\sec\theta+1}{\tan^2\theta}=1$,

52) $\dfrac{\tan\theta}{1+\tan\theta}-\dfrac{\cot\theta}{1+\tan\theta}=1-\cot\theta$, 53) $\dfrac{\sec\theta-1}{\sec\theta+1}-\dfrac{\sec\theta+1}{\sec\theta-1}=-4\csc\theta\cot\theta$,

54) $\dfrac{\cos\theta}{1+\sin\theta}=\cos\theta+\tan\theta$, 55) $\dfrac{1+\sin\theta}{\cos\theta}-\dfrac{\cos\theta}{1-\sin\theta}=0$