BLM 6–2 Section 6.1 Extra Practice

1. a) $x \neq \dfrac{\pi}{2} + \pi n,\ n \in I$

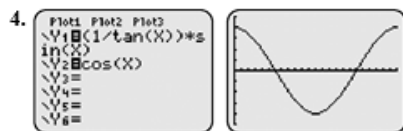b) $x \neq \pi n;\ n \in I$ and $x \neq \dfrac{\pi}{2} + \pi n,\ n \in I$

c) $x \neq 2\pi n,\ n \in I$ and $x \neq \dfrac{\pi}{2} + \pi n,\ n \in I$

~~d)~~ $x \neq \dfrac{\pi}{2} n;\ n \in I$

2. $\theta \neq \pi n,\ n \in I$

3. a) $\cos x$ b) $\cos x$ c) $\sin x$ d) $\tan x$

4.


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Plot1  Plot2  Plot3
\Y1冒(1/tan(X))*s
in(X)
\Y2冒cos(X)
\Y3=
\Y4=
\Y5=
\Y6=
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5. a) 2   b) 1   c) $\sec^2 x$ d) 1   e) $\sin x \cos x$ f) 1

6. a) may be an identity
b) not an identity   c) not an identity

7. a) $\cot x$ b) $\sec x$ c) $\csc x$

8. Left side $= \sin^4\left(\dfrac{\pi}{6}\right) - \cos^4\left(\dfrac{\pi}{6}\right)$

$$= \dfrac{1}{16} - \dfrac{9}{16}$$

$$= -\dfrac{1}{2}$$

Right side $= 2\sin^2\left(\dfrac{\pi}{6}\right) - 1$

$$= -\dfrac{1}{2}$$

$$= \text{Left side}$$

9. Left side $= \sec\left(\dfrac{\pi}{4}\right) + \sec\left(\dfrac{\pi}{4}\right)\cos\left(\dfrac{\pi}{4}\right)$

$$= \dfrac{1}{\cos\left(\dfrac{\pi}{4}\right)} + \dfrac{\cos\left(\dfrac{\pi}{4}\right)}{\cos\left(\dfrac{\pi}{4}\right)}$$

$$= \dfrac{2}{\sqrt{2}} + 1$$

Right side $= 1 + \sec\left(\dfrac{\pi}{4}\right)$

$$= 1 + \dfrac{1}{\cos\left(\dfrac{\pi}{4}\right)}$$

$$= 1 + \dfrac{2}{\sqrt{2}}$$

$$= \text{Left side}$$