Name: _____

Sum and Difference Formulas

Exercise 1: Compute the exact value for $\cos\left(\frac{\pi}{3}+\frac{\pi}{4}\right)$.Compute the exact value for $\cos\left(\frac{\pi}{3}\right)+\cos\left(\frac{\pi}{4}\right)$. What do you conclude?

Exercise 2: Compute the exact values for $\sin\pi$ and $\sin\left(\frac{\pi}{2}\right)+\sin\left(\frac{\pi}{2}\right)$. What do you conclude?

Exercise 3: Find the exact value of :

1) $\sin(240^0 - 300^0)$
2) $\sin(315^0 - 480^0)$
3) $\cos(420^0 + 135^0)$
4) $\cos(405^0 + 120^0)$
5) $\sin(315^0 - 480^0)$
6) $\cos(210^0 - 495^0)$
7) $\sin(225^0 - 150^0)$
8) $\cos(390^0 + 135^0)$
9) $\cos(315^0 - 510^0)$
10) $\sin(480^0 + 315^0)$
11) $\sin(60^0 + 405^0)$
12) $\sin(210^0 - 150^0)$
13) $\cos(300^0 + 45^0)$
14) $\cos(420^0 - 135^0)$

Exercise 4: Use the double angle formula to rewrite each expression

1) $6\sin x\cos x$
2) $6\cos^2 x-3$
3) $4-8\sin^2 x$
4) $(\cos x+\sin x)(\cos x-\sin x)$

Exercise 14: Verify the identity

1) $\csc 2\theta=\frac{\csc\theta}{2\cos\theta}$
2) $\sec 2\theta=\frac{\sec^2\theta}{2-\sec^2\theta}$