Math 2312 – Pre-Calculus ***Assignment***

Professor: Fred Khoury

1. In any triangle *ABC*, prove that:

$$a = b\ \cos C\ +\ c\ \cos B$$

$$b = c\ \cos A\ +\ a\ \cos C$$

$$c = a\ \cos B\ +\ b\ \cos A$$

2. Evaluate:

$$\sin 1° + \sin 2° + \sin 3° + \cdots\cdots + \sin 357° + \sin 358° + \sin 359°$$

$$\sin^2 1° + \sin^2 2° + \sin^2 3° + \cdots\cdots + \sin^2 357° + \sin^2 358° + \sin^2 359°$$

3. Find the solution(s) for: $\cos 2x + \cos 4x = \cos x$