**6.2 – SUM, DIFFERENCE and DOUBLE-ANGLE IDENTITIES**

They are the rest of the identities on our formula sheet (1st column).

In particular, it is important to notice that the trig functions are not linear, which means for example that:

$$sin \left(A+B\right)\ne \sin(A+\sin(B))$$

$$\sin(\left(A-B\right)\ne \sin(A-\sin(B)))$$

$$\sin(\left(2A\right)\ne 2\sin(A))$$

Applications:

1. Write these expressions as a single trigonometric ratio:

a) $\sin(48).\cos(17)-\cos(48).\sin(17)$

b) $cos^{2}\frac{π}{3}-sin^{2}\frac{π}{3}$

Your turn:



1. Determine the restrictions and prove that $\frac{1-\cos(2x)}{\sin(2x)}=tanx$
2. Determine the exact value of

a) $\sin(\frac{π}{12})$

b) $\tan(105^{o})$

Your turn:



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