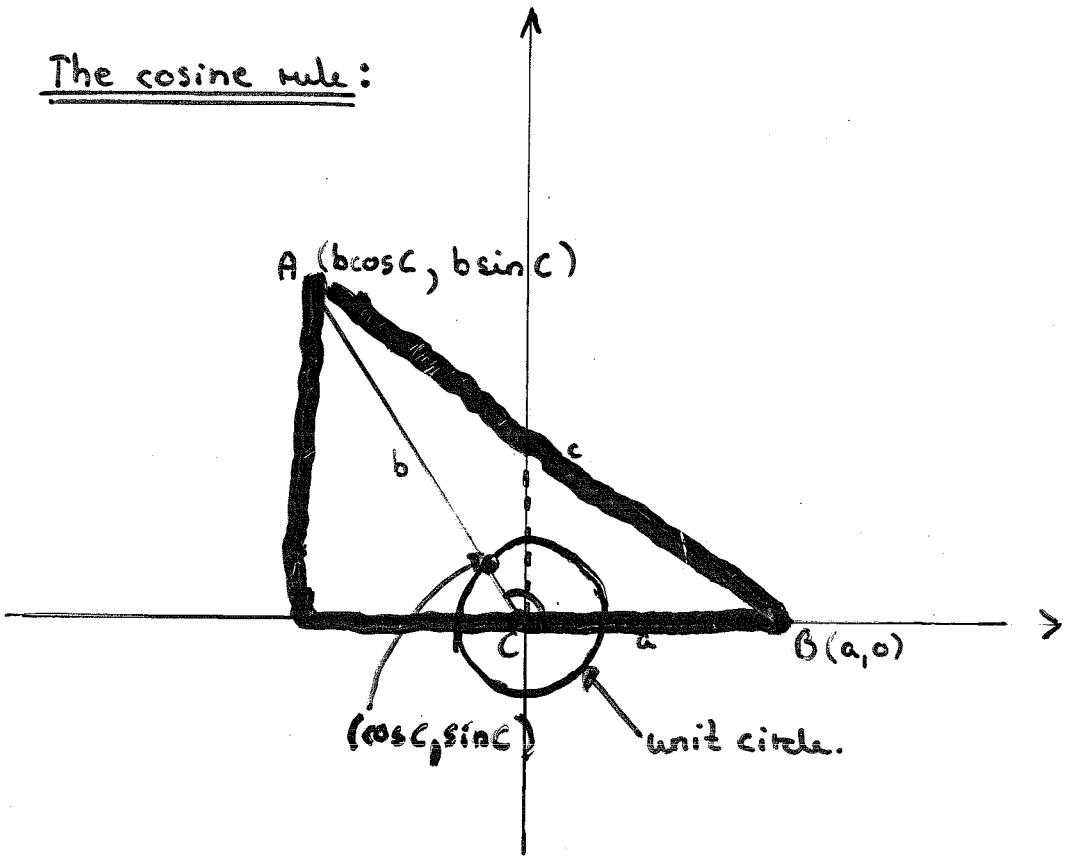
The cosine rule:



$$c^2 = (b\cos C - a)^2 + (b\sin C)^2$$

$$= b^2\cos^2 C - 2ab\cos C + a^2 + b^2\sin^2 C$$

$$= b^2(\cos^2 C + \sin^2 C) + a^2 - 2ab\cos C$$

$$= b^2 + a^2 - 2ab\cos C$$