

cosine at multiples of straight angle

Canonical name CosineAtMultiplesOfStraightAngle

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Owner pahio (2872) Last modified by pahio (2872)

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Related topic ComplexSineAndCosine

Related topic HigherOrderDerivativesOfSineAndCosine

Related topic FourierSineAndCosineSeries

Related topic General Associativity

Related topic ValueOfRiemannZetaFunctionAtS4
Related topic ValueOfDirichletEtaFunctionAtS2

Everybody remembers the cosine values

$$\cos 0 = 1$$
, $\cos(\pm \pi) = -1$, $\cos(\pm 2\pi) = 1$, $\cos(\pm 3\pi) = -1$, ...

The thing can be concisely expressed as the

$$\cos n\pi = (-1)^n$$

for each integer n. The values of sine at the same angles are simply 0.