Maths

Solve trig equations involving $\cos x$ between 0 and 360
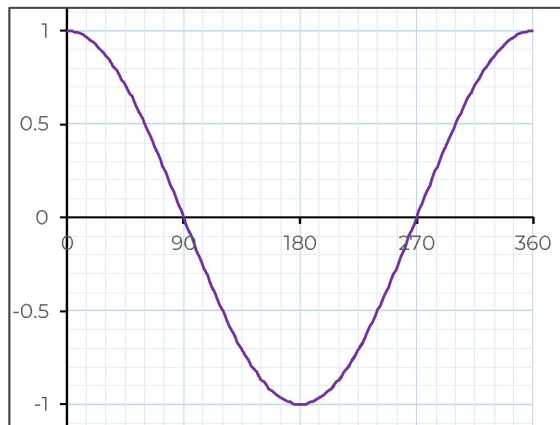
Mr Bond

Please note this downloadable resource contains colour font and images

Solve trig equations involving $\cos x$ between 0 and 360

1. Here is the graph of $y = \cos x$
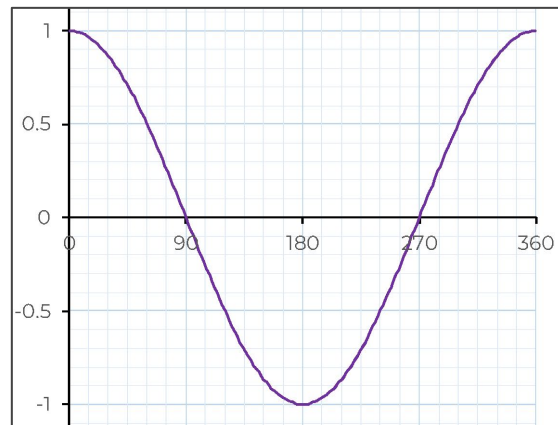

Use the graph to estimate solutions.

a) $\cos x = 0.5$ b) $\cos x = -0.5$

c) $\cos x = 0.9$ d) $\cos x = -0.6$

2. Here is the graph of $y = \cos x$

Use the graph to estimate solutions.

a) $\cos 2x = 0.5$ b) $\cos 2x = -0.5$
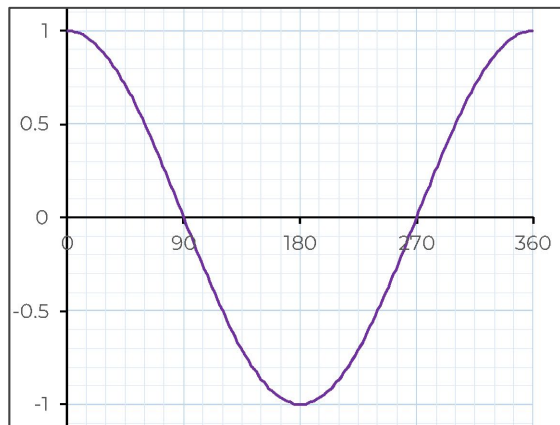
c) $\cos 5x = 0.9$ d) $2\cos x = -0.6$

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Answers

Solve trig equations involving $\cos x$ between 0 and 360

1. Here is the graph of $y = \cos x$

Use the graph to estimate solutions.

a) $\cos x = 0.5$

    $x = 60, x = 300$

b) $\cos x = -0.5$
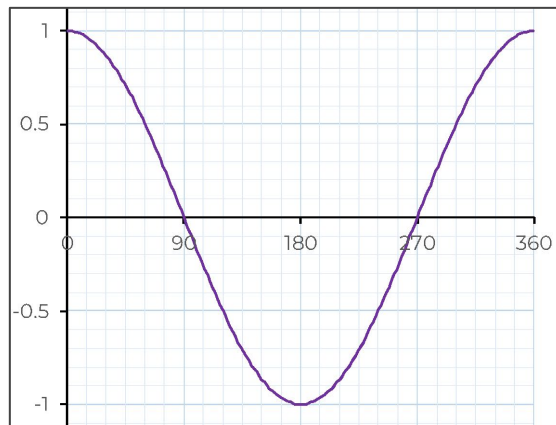
    $x = 120, x = 240$

c) $\cos x = 0.9$

    $x = 29, x = 331$

d) $\cos x = -0.6$

    $x = 125, x = 232$

2. Here is the graph of $y = \cos x$

Use the graph to estimate solutions.

a) $\cos 2x = 0.5$

    $x = 30, x = 150$

b) $\cos 2x = -0.5$

    $x = 60, x = 120$

c) $\cos 5x = 0.9$

    $x = 5.8, x = 66.2$

d) $2\cos x = -0.6$

    $x = 106, x = 253$