

Advanced Trigonometric Equations

Factor or rewrite first, list every solution in the requested scope, and reject values where the original equation is undefined.

1. Solve $\cos(3(x - 5\pi/12))=0$ for all real x .

Assumptions: General solutions use integer n and retain all original undefined points.

2. Solve $\cos(2(x - \pi/12))=0$ on $0 \leq x < 2\pi$.

Assumptions: The interval is half-open, so include its left endpoint and exclude its right endpoint.

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3. Solve $\cos(x - 3\pi/4)[2\cos(x - 3\pi/4) - 1] = 0$ on $0 \leq x < 2\pi$.

Assumptions: The interval is half-open, so include its left endpoint and exclude its right endpoint.

4. Solve $2\cos^2(x - 5\pi/6) + \cos(x - 5\pi/6) - 1 = 0$ on $0 \leq x < 2\pi$.

Assumptions: The interval is half-open, so include its left endpoint and exclude its right endpoint.

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5. Solve $\sin(3(x - \pi/2))=0$ for all real x .

Assumptions: General solutions use integer n and retain all original undefined points.

6. Solve $\tan(2(x - \pi/4))=0$ for all real x .

Assumptions: General solutions use integer n and retain all original undefined points.

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7. Solve $\tan((x - 11\pi/12))[\tan((x - 11\pi/12))-1]=0$ on $0 \leq x < 2\pi$.

Assumptions: The interval is half-open, so include its left endpoint and exclude its right endpoint.

8. Solve $\sin(2(x - 2\pi/3))=0$ on $0 \leq x < 2\pi$.

Assumptions: The interval is half-open, so include its left endpoint and exclude its right endpoint.