$$\frac{13\pi}{12} = \frac{3\pi}{12} + \frac{10\pi}{12}$$

Warmup 5: Use the sum or difference formula to find the exact value of $\cos \frac{13\pi}{12}$.

$\cos\left(\frac{13\pi}{12}\right)$

$\cos\left(\frac{\pi}{4} + \frac{5\pi}{6}\right)$

$\cos(A+B) = \cos A \cos B - \sin A \sin B$

$\cos\frac{\pi}{4}\cos\frac{5\pi}{6} - \sin\frac{\pi}{4}\sin\frac{5\pi}{6}$

$\frac{\sqrt{2}}{2} \cdot -\frac{\sqrt{3}}{2} - \frac{\sqrt{2}}{2} \cdot \frac{1}{2}$

$\frac{-\sqrt{6}}{4} - \frac{\sqrt{2}}{4}$

$\boxed{\frac{-\sqrt{6}-\sqrt{2}}{4}}$ or $\boxed{\frac{-\sqrt{2}-\sqrt{6}}{4}}$