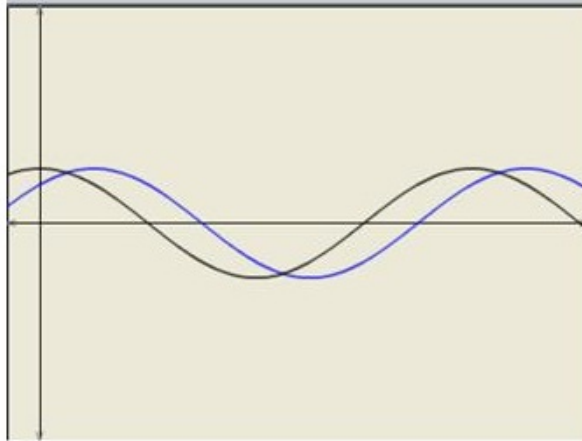




Chapter 6 Graphs of Trigonometric Functions Ex 6.2 Q2



We have,

$$y = \cos 2 \left(x - \frac{\pi}{4} \right)$$

$$\Rightarrow y - 0 = \cos 2 \left(x - \frac{\pi}{4} \right) \quad \text{---(i)}$$

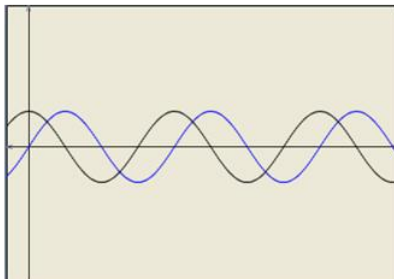
Shifting the origin at $\left(\frac{\pi}{4}, 0 \right)$, we obtain

$$x = X + \frac{\pi}{4}, \quad y = Y + 0$$

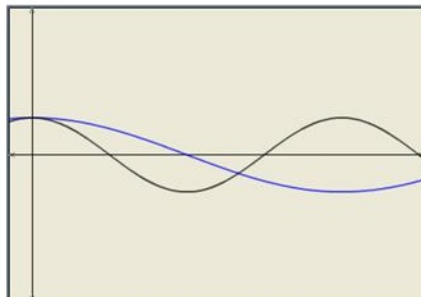
Substituting these values in (i), we get

$$Y = \cos 2X.$$

Thus we draw the graph of $Y = \cos 2X$ and shift it by $\frac{\pi}{4}$ to the right to get the required graph.



To obtain the graph of $y = \cos \frac{x}{2}$ we first draw the graph of $y = \cos x$ in the interval $[0, 2\pi]$ and then divide the x-coordinates of the points where it crosses x-axis by 1/2.



***** END *****