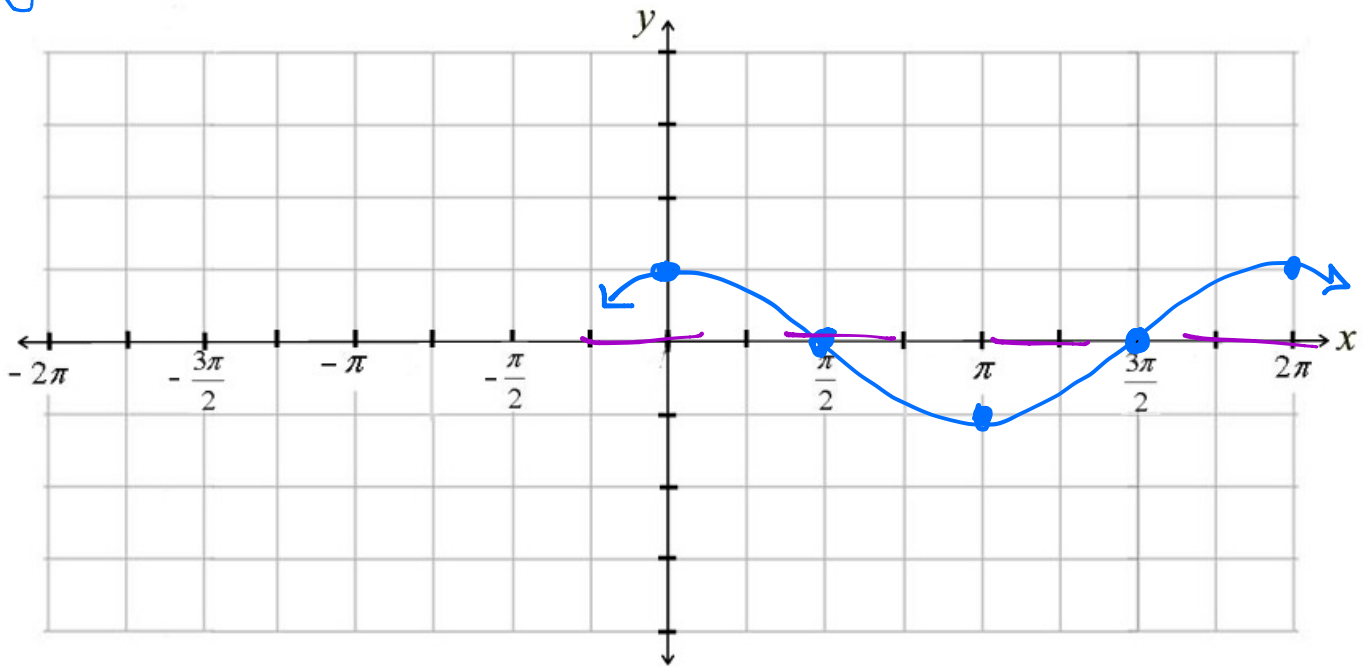
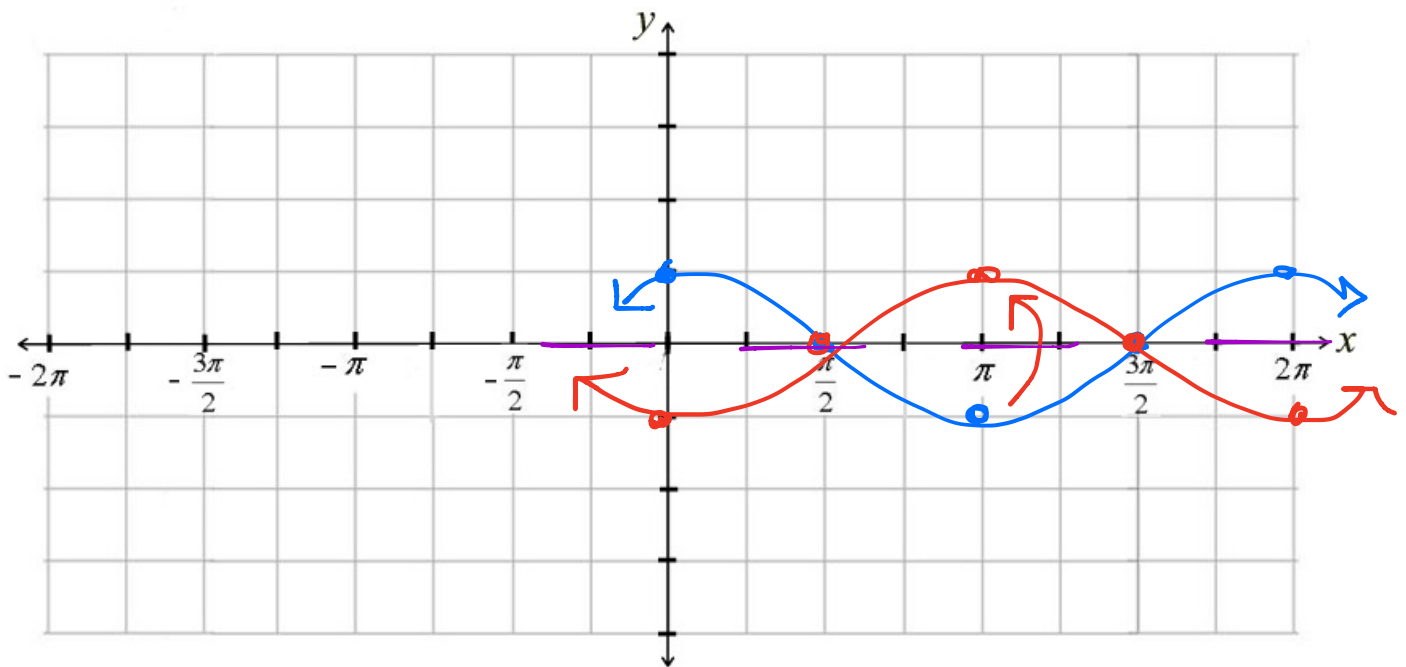


$y = \cos x$  ★ parent function

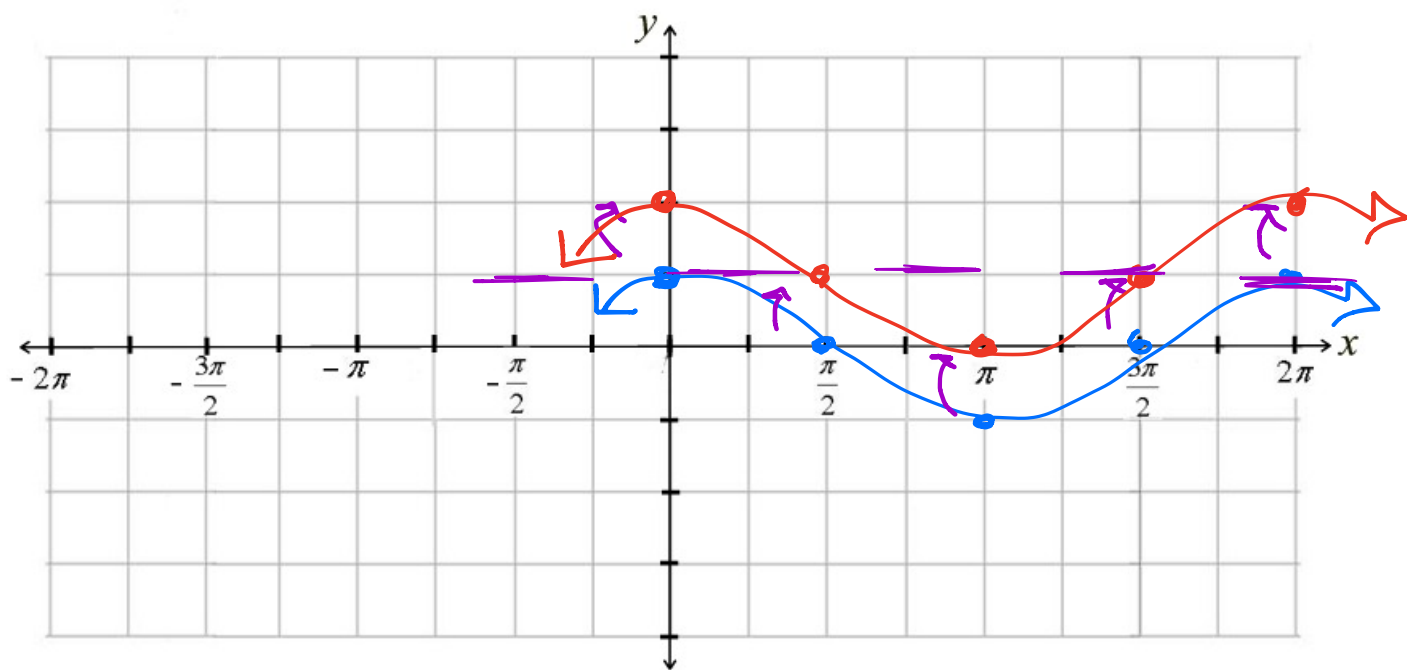


→ reflects over x-axis

$y = -\cos x$

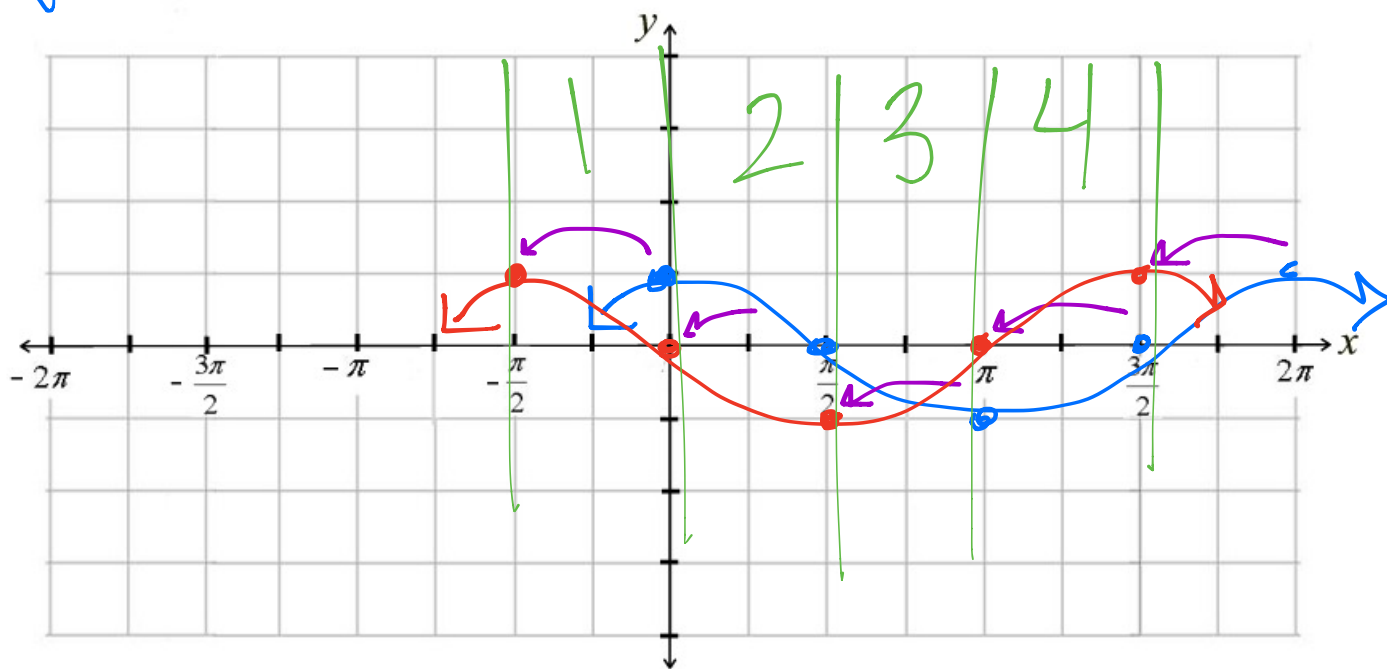


$y = \cos x + 1$  → up 1 → midline @  $y = 1$

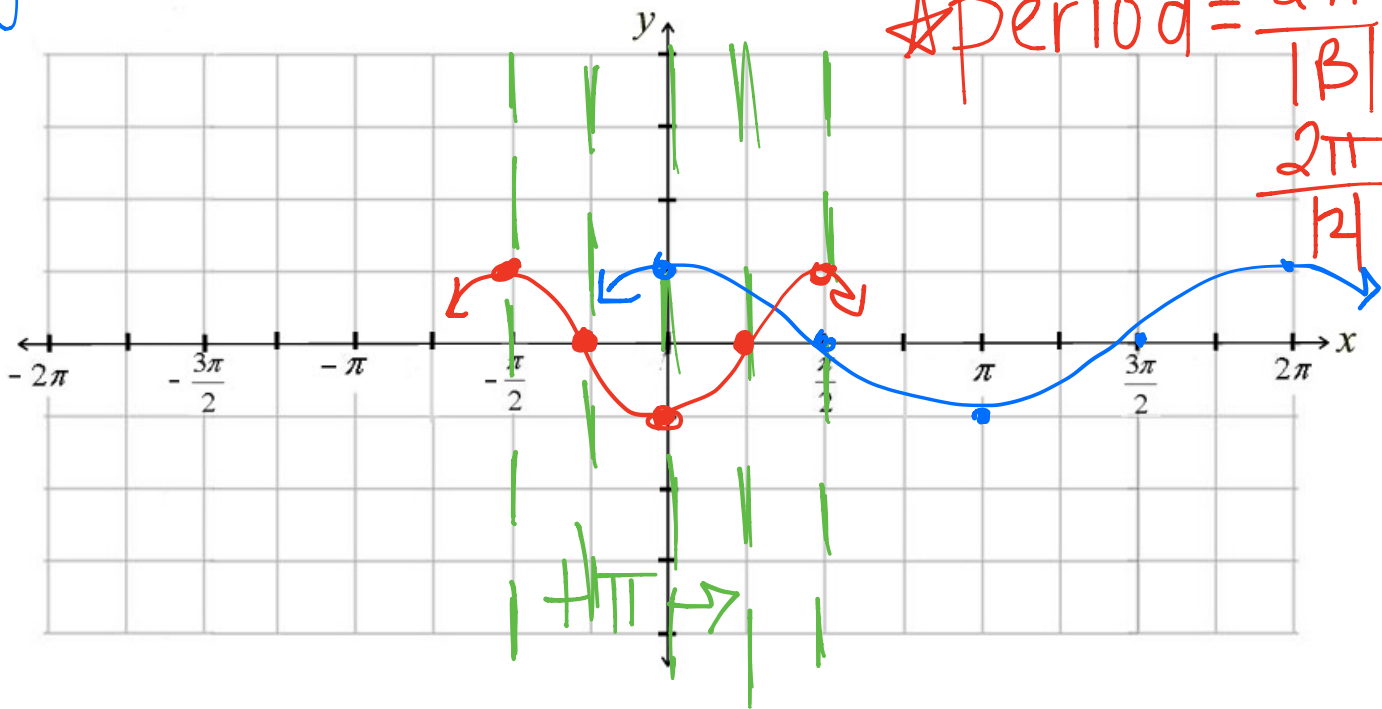


→ left  $\frac{\pi}{2}$  → phase shift

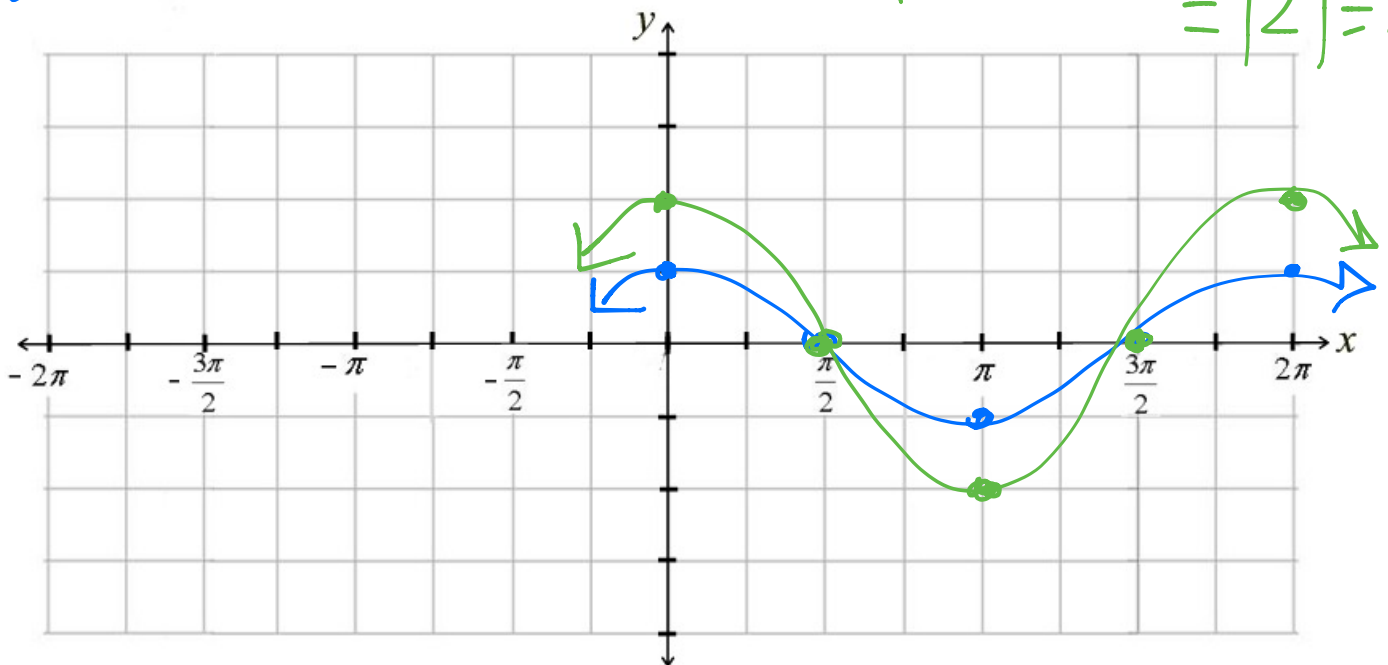
$y = \cos(x + \frac{\pi}{2})$



$y = \cos\left[2\left(x + \frac{\pi}{2}\right)\right] \rightarrow \text{left } \frac{\pi}{2}$   
 $y = \cos(2x + \pi) \rightarrow \text{horizontal comp. of } 2 \rightarrow B=2$   
 $\star \text{Period} = \frac{2\pi}{|B|}$   
 $\frac{2\pi}{|2|} = \pi$



$y = 2 \cos x \rightarrow \text{vertical str. of } (2) = A$   
 $\text{amplitude} = |A|$   
 $= |2| = 2$



$$y = -2 \cos\left[2\left(x + \frac{\pi}{2}\right)\right] - 1$$

$$y = -2 \cos(2x + \pi) - 1$$

$$\text{Per} = \frac{2\pi}{|2|} = \pi$$

$$\text{Amp} = |-2| = 2$$

