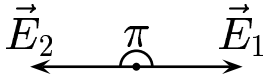
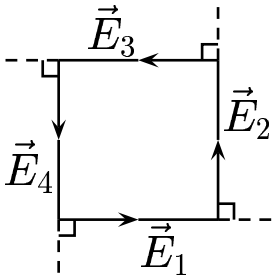
# of slits	1st min. angle	Phasor diagram
2 slits	$\phi_1 = \pi$	
4 slits	$\phi_1 = \frac{\pi}{2}$	
6 slits	$\phi_1 = ?$	

Determine ϕ_1 for the 6-slit case.

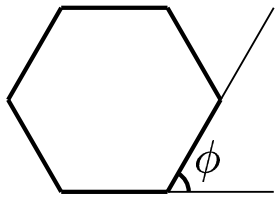
A) $\phi_1 = \frac{\pi}{12}$.

B) $\phi_1 = \frac{\pi}{6}$.

C) $\phi_1 = \frac{\pi}{3}$.

For number of slits equal to 3 or greater, the first minimum occurs when the polygon is completed. By inspection this occurs in general at $\phi_1 = \frac{2\,\pi}{N}$.

For the present case $N = 6$, or $\phi_1 = \frac{\pi}{3}$



Answer **C**.

37.04-04˙Six˙Slits 2004-3-24