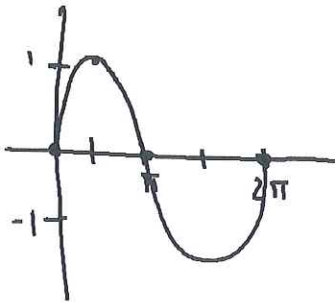


Graphing Sine Functions

$$y = \sin x$$

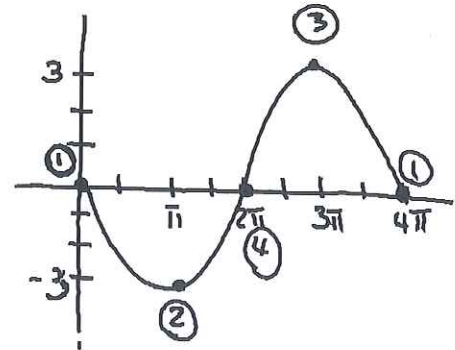
$$A=1 \quad \text{period} = 2\pi$$



- ① Begin & end at $x=0$
- ② $\frac{1}{4}$ of Period $x=A$
- ③ $\frac{3}{4}$ of Period $x=-A$
- ④ $\frac{1}{2}$ of Period $x=0$

$$y = -3 \sin \frac{x}{2}$$

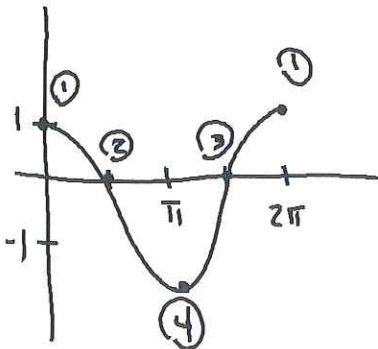
$$A=3 \quad \text{period} = 4\pi$$



Graphing Cosine Functions

$$y = \cos x$$

$$A=1 \quad \text{period} = 2\pi$$



1. Begin & end at $x=A$
2. $\frac{1}{4}$ of period $x=0$
3. $\frac{3}{4}$ of period $x=0$
4. $\frac{1}{2}$ of period $x=-A$

$$A=3 \quad \text{period} = 4\pi$$

$$y = -3 \cos \frac{x}{2}$$

