

BE-Alg. 2 - Monday 2-15-10

- ① Complete the square: $2x^2 - 5x + 8 = 7$
(EXACT ANSWER)
- ② Take out Q3HW6 (or "reason") & pass to "row" person

$$\textcircled{1} \quad 2x^2 - 5x + 8 = 7$$

$-8 \quad -8$

$$\frac{2x^2}{2} - \frac{5x}{2} = \frac{-1}{2}$$

$$x^2 - \frac{5}{2}x + \text{cloud} = -\frac{1}{2} + \text{cloud}$$

$$x^2 - \frac{5}{2}x + \left(\frac{5}{4}\right)^2 = -\frac{8}{16} + \frac{25}{16}$$

$$\downarrow \quad \downarrow$$
$$\left(x - \frac{5}{4}\right)^2 = \frac{17}{16}$$

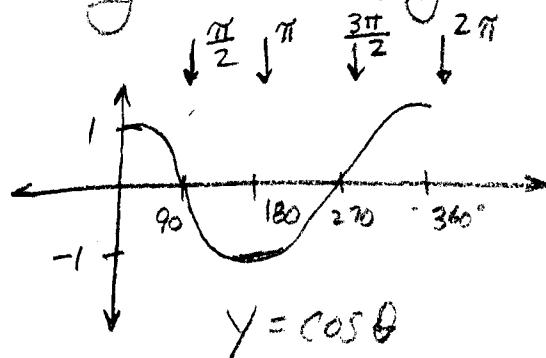
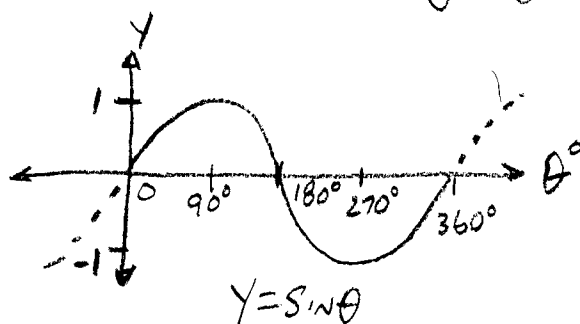
$$\sqrt{\left(x - \frac{5}{4}\right)^2} = \pm \sqrt{\frac{17}{16}} = \pm \frac{\sqrt{17}}{4}$$

$$x - \frac{5}{4} = \pm \frac{\sqrt{17}}{4}$$

$$x = \frac{5}{4} \pm \frac{\sqrt{17}}{4} = \boxed{\left\{ \frac{5+\sqrt{17}}{4}, \frac{5-\sqrt{17}}{4} \right\}}$$

Ch. 14-1 GRAPHING Trig. Functions

RECALL the graph of $y = \sin \theta$; $y = \cos \theta$



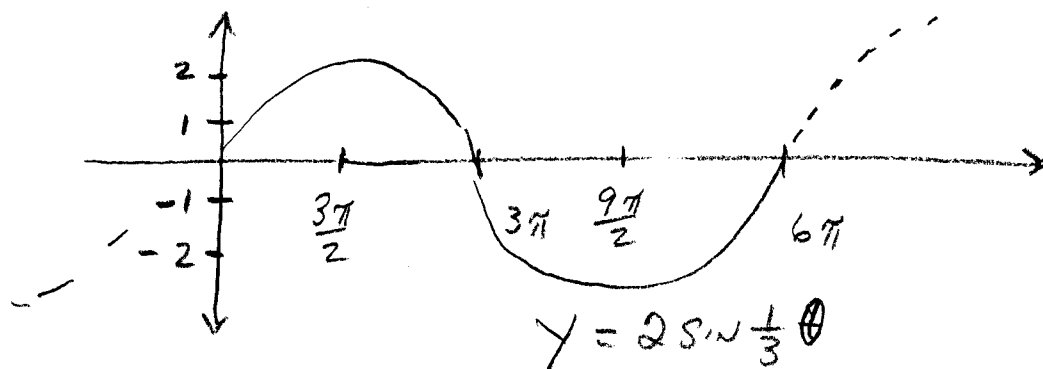
$$\text{period} = 360^\circ = 2\pi \text{ radians} = \boxed{\text{period}}$$

$$\frac{|\text{MAX} - \text{MIN}|}{2} = \frac{1 - (-1)}{2} = 1 = \boxed{\text{AMPLITUDE}}$$

General: $y = a \sin b \theta$ $y = a \cos b \theta$

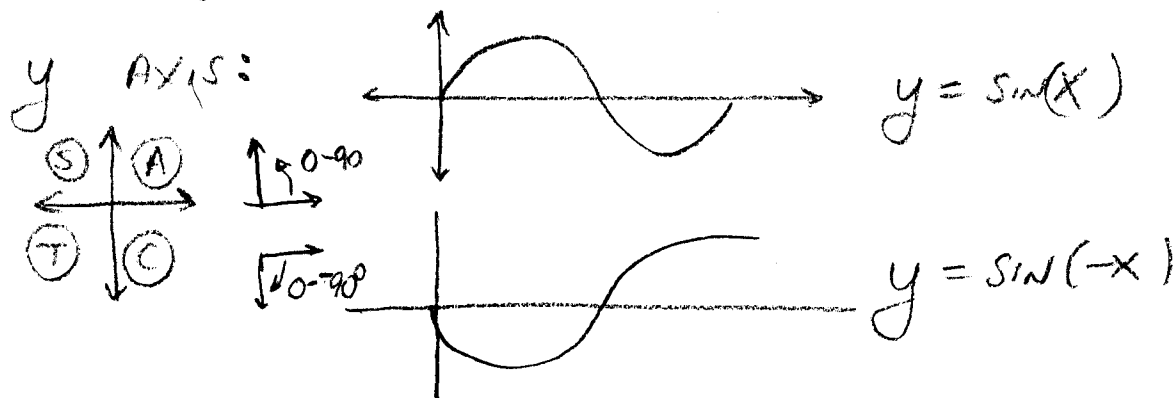
$a = \text{AMPLITUDE}$ $\frac{360^\circ}{|b|}$ or $\frac{2\pi}{|b|} = \text{period}$

Ⓔ $y = 2 \sin \frac{1}{3} \theta \Rightarrow a = 2$ period $= \frac{2\pi}{\frac{1}{3}} = 6\pi$

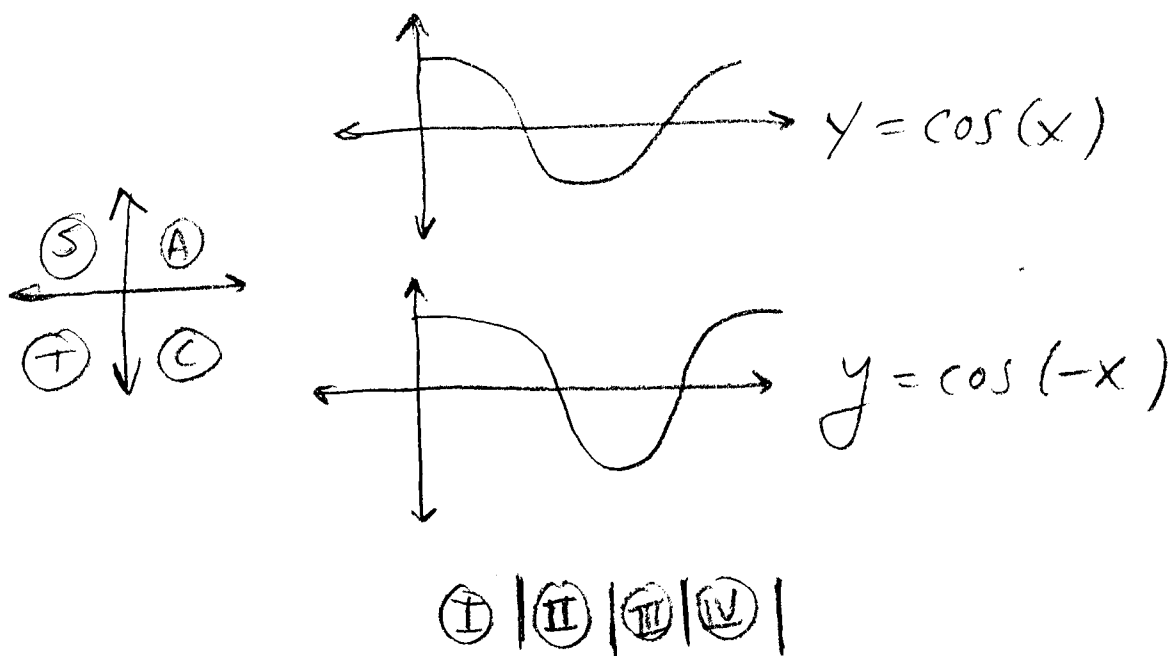


$\uparrow$ $\uparrow$ $\uparrow$ $\uparrow$
 270° 540° 810° 1080°

If the "b" term is negative, it "flips" the graph of the sin & across the



But the graph of $y = \cos(x) = y = \cos(-x)$



Look at graphs of tan, sec, csc, cot
on Pg. 763.

PRACTICE: GRAPH:

$$y = \cos 3\theta \quad \text{use degrees}$$

$$y = \frac{1}{4} \sin \theta \quad \text{use degrees}$$

$$y = \frac{1}{2} \sin \left(-\frac{1}{3} \theta \right) \quad \text{use radians}$$

Check answers on Pg. 765.

Homework: Pg. 767 # 9, 10, 12