

Section 6.6: continued from handout

Wednesday, February 17, 2016
9:33 AM

transformation of sine and cosine graphs:

$$y = A \sin(Bx - c) + D$$

amplitude is $|A|$
(if A is negative, flips over x-axis)

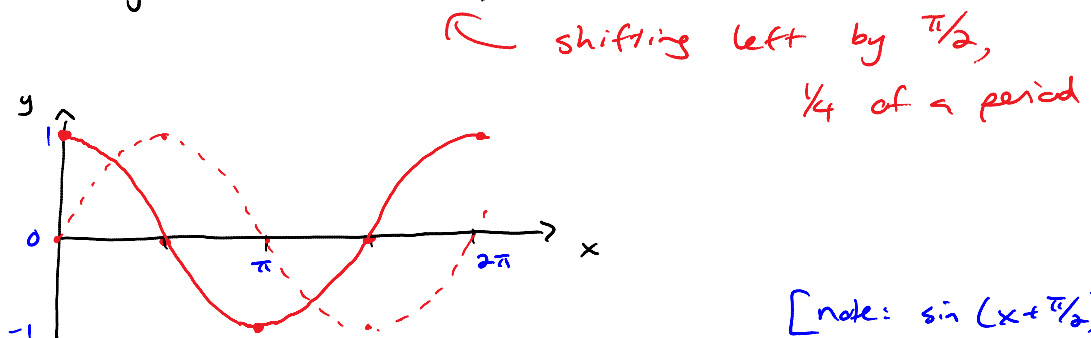
period is $\frac{2\pi}{|B|}$
so B expands/contracts
(if B is negative, flips over y-axis)

shifts up or down

note: same rules apply to cosine!

but what about c ?

sketch $y = \sin(x + \pi/2)$



[note: $\sin(x + \pi/2) = \cos x$]

c follows the same shifting rules as we learned previously

what about

$Bx+C$?
 $Bx-C$?

for $B \neq 1$

} I will not test this

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

↑
period is π

shifts right by $\frac{\pi}{2}$
→ $\frac{1}{4}$ of a period

phase shift
 $\frac{c}{B}$