

3-8 Notes Phase Shift
Pre-Calculus

Name _____

We have been transforming trig functions with a , b , and d . We now introduce c . Sometimes denoted as Φ .

$y = a \sin (bx - c) + d$	$y = a \cos (bx - c) + d$
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When we transformed our parent functions what did the c value tell us?

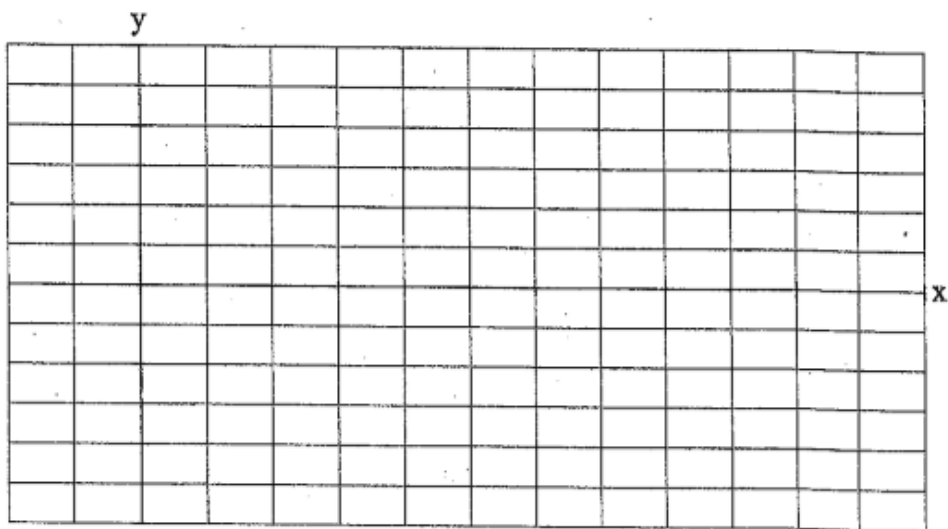
ex. $y = (x - 3)^2$

The same idea applies now. We refer to this horizontal shift specifically as a phase shift when referring to trig graphs. Phase shift is found by: $\frac{c}{b}$

For each function, identify the midline, amplitude, period, key points, and phase shift. Then graph the function.

1. $f(x) = 3\sin(2x - \pi)$

- $a =$ $b =$
- $c =$ $d =$
- $Pd =$ $KP =$
- $PS =$



2. $f(x) = 2\cos(4x + 3\pi) + 1$

- $a =$ $b =$
- $c =$ $d =$
- $Pd =$ $KP =$
- $PS =$

