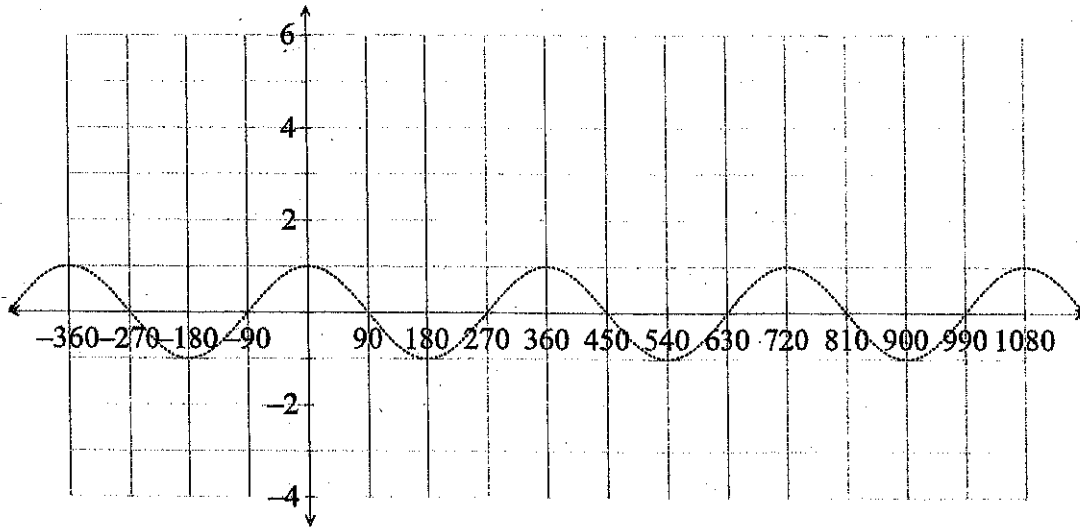3-6 Notes Transformations of Trig Graphs   Name: _____

et's consider a transformed function that is written as f(x) = cos x + D.

A graph of the function $f(x) = \cos x$ is shown. Sketch the graphs of the functions $g(x) = \cos(x) + 4$ and $h(x) = \cos(x) - 3$ on the same coordinate plane. Then identify the midline, maximum value, minimum value, amplitude, and period for each function.

Function	$f(x) = \cos x$	$g(x) = \cos(x) + 4$	$h(x) = \cos(x) - 3$
Max & Min Values	Max: Min:	Max: Min:	Max: Min:
Amplitude (a)			
Midline (d)			
Period (Pd)			
Key Points (Kp)			
Range			
Domain			

General Equation for Cosine: $y = a\cos(bx) + d$

$a =$ amplitude $= \left|\dfrac{Max - Min}{2}\right|$ $d =$ midline $= \dfrac{Max + Min}{2}$ $b =$ frequency (# of cycles from 0 to 360°)

$(b \times Period) = 360°$ or 2π Key Points (KP) $= \dfrac{Period}{4}$

For each function, identify the Midline, Amplitude, Period, and Key Points. Then graph the function. Be sure to label the axes.
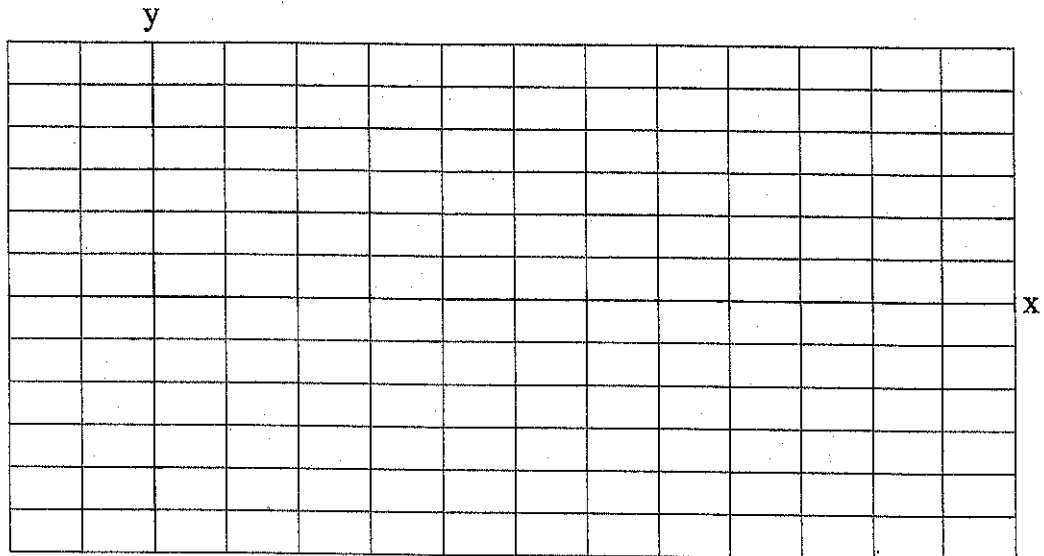
3. $f(x) = 4\cos x - 1$

y

a =

d =

b =

Pd =

KP =

x

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

y

a =

d =

b =

Pd =

KP =

x