

Graph each:

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

Amplitude: 1

Period: 180

Vertical Shift: -2

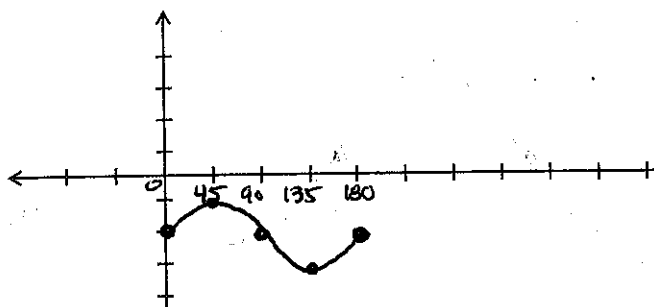
Horizontal Shift: 0

Start: 0

End: 180

Increments: 45

x	f(x)
0	-2
45	-1
90	-2
135	-3
180	-2



2. $f(x) = -\cos(x + 135^\circ) + 2$

Amplitude: 1

Period: 360

Vertical Shift: +2

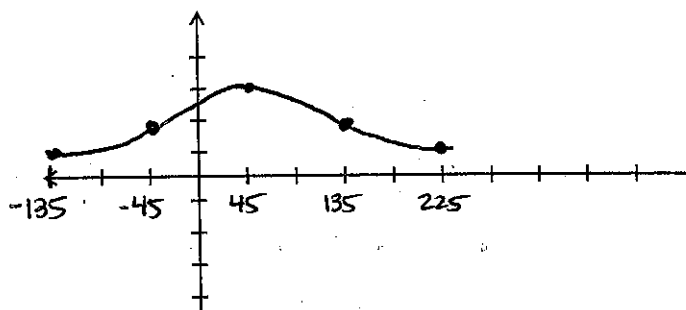
Horizontal Shift: -135

Start: -135

End: 225

Increments: 90

x	f(x)
-135	1
-45	2
45	3
135	2
225	1



3. $f(x) = -2\sin(2x - 180^\circ) - 1$

Amplitude: 2

Period: 180

Vertical Shift: -1

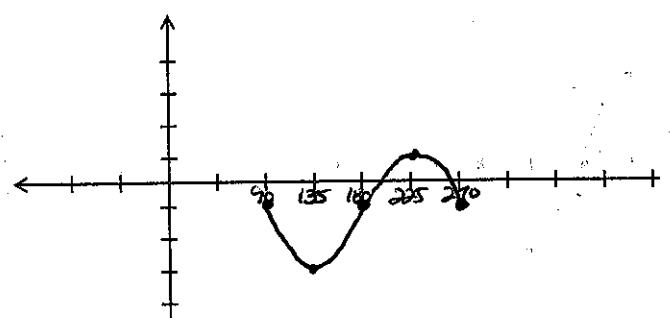
Horizontal Shift: 90

Start: 90

End: 270

Increments: 45

x	f(x)
90	-1
135	-3
180	-1
225	1
270	-1



4. $f(x) = 3\cos(x - 180^\circ)$

Amplitude: 3

Period: 360

Vertical Shift: 0

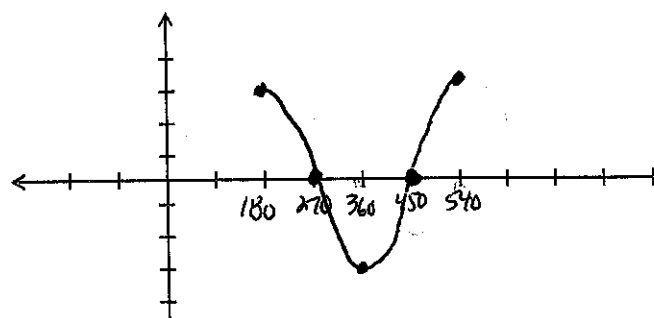
Horizontal Shift: 180

Start: 180

End: 540

Increments: 90

x	f(x)
180	3
270	0
360	-3
450	0
540	3



Graph each function

1. $f(x) = 3 \sin(2x - 180^\circ) - 2$

Amplitude: 3

Period: 180

Vertical Shift: -2

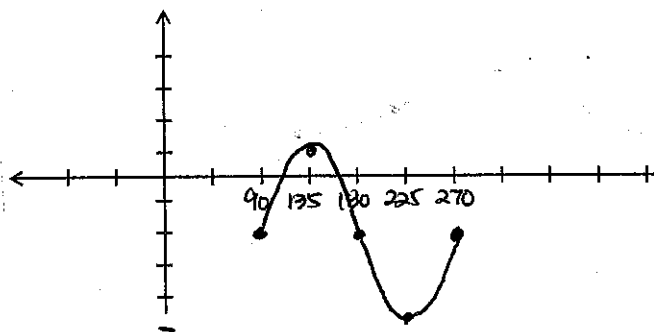
Horizontal Shift: 90

Start: 90

End: 270

Increments: 45

x	f(x)
90	-2
135	1
180	-2
225	-5
270	-2



2. $f(x) = -3 \cos(x + 45^\circ) + 1$

Amplitude: 3

Period: 360

Vertical Shift: 1

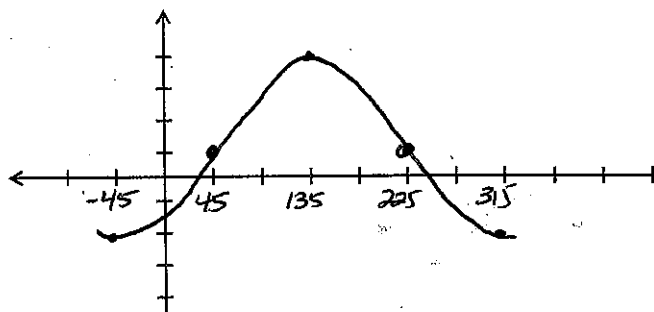
Horizontal Shift: -45

Start: -45

End: 315

Increments: 90

x	f(x)
-45	-2
45	1
135	4
225	1
315	-2



3. $f(x) = 2 \cos(x - 90^\circ) + 1$

Amplitude: 2

Period: 360

Vertical Shift: 1

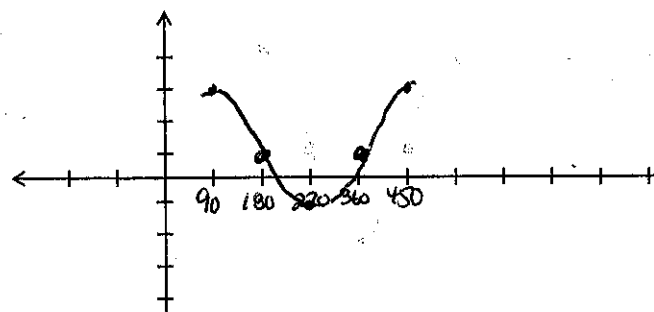
Horizontal Shift: 90

Start: 90

End: 450

Increments: 90

x	f(x)
90	3
180	1
270	-1
360	1
450	3



4. $f(x) = 3 \sin(2x + 225^\circ)$

Amplitude: 3

Period: 180

Vertical Shift: 0

Horizontal Shift: -112.5

Start: -112.5

End: 67.5

Increments: 45

x	f(x)
-112.5	0
-67.5	3
-22.5	0
22.5	-3
67.5	0

