

Problem 1

	A	B	C	D	E	F
=						
1	a		4			
2	b		3			
3	c		270			
4	d		-2			

$$y = 4 \sin(3x + 270) - 2$$

$$y = 4 \sin(3(x + 90)) - 2$$

Period $[-90, 30.)$ Range $[-6, 2]$

Amplitude 4 Equation of Midline $y = -2$

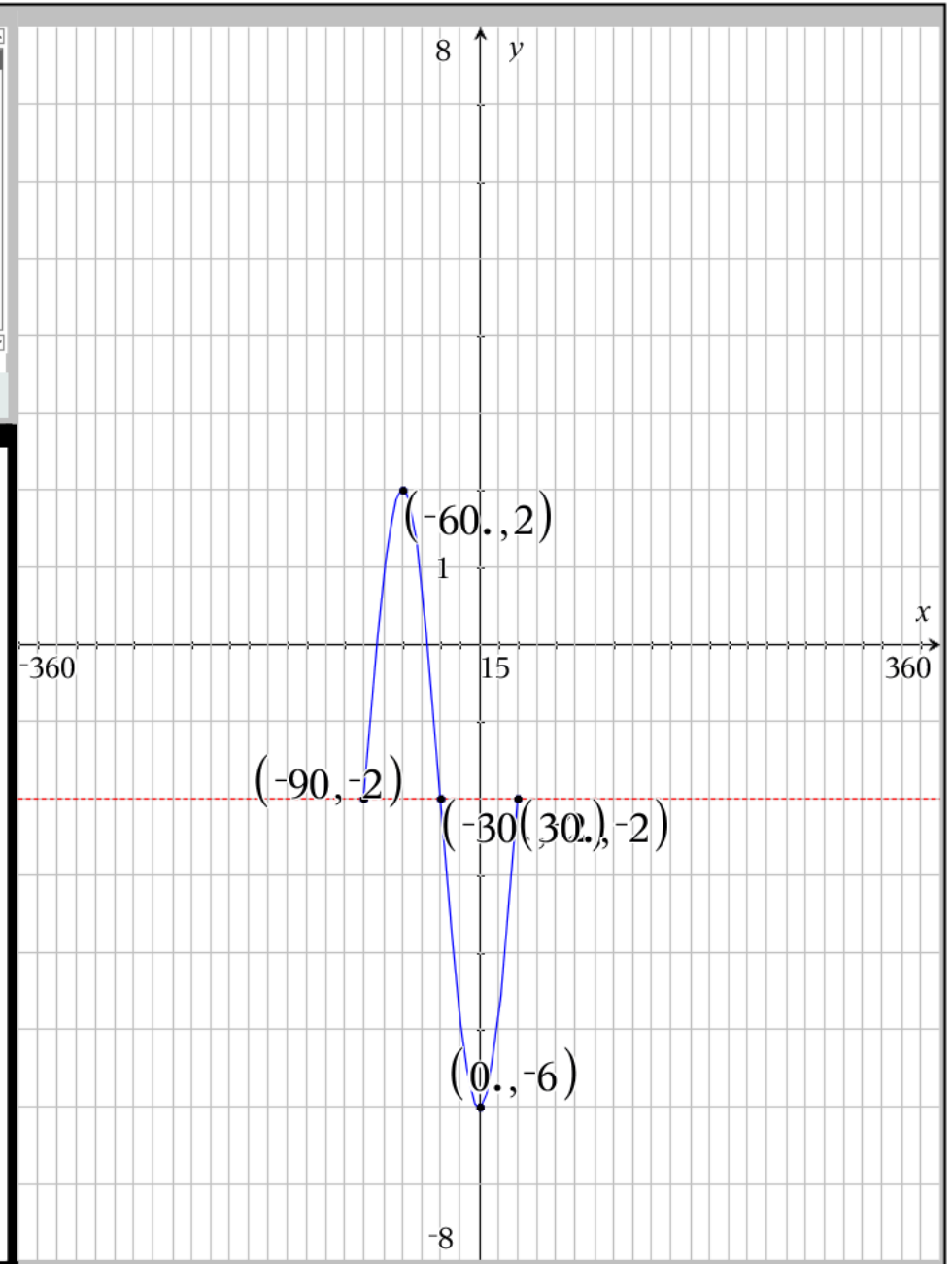
horizontal shift SHIFT LEFT

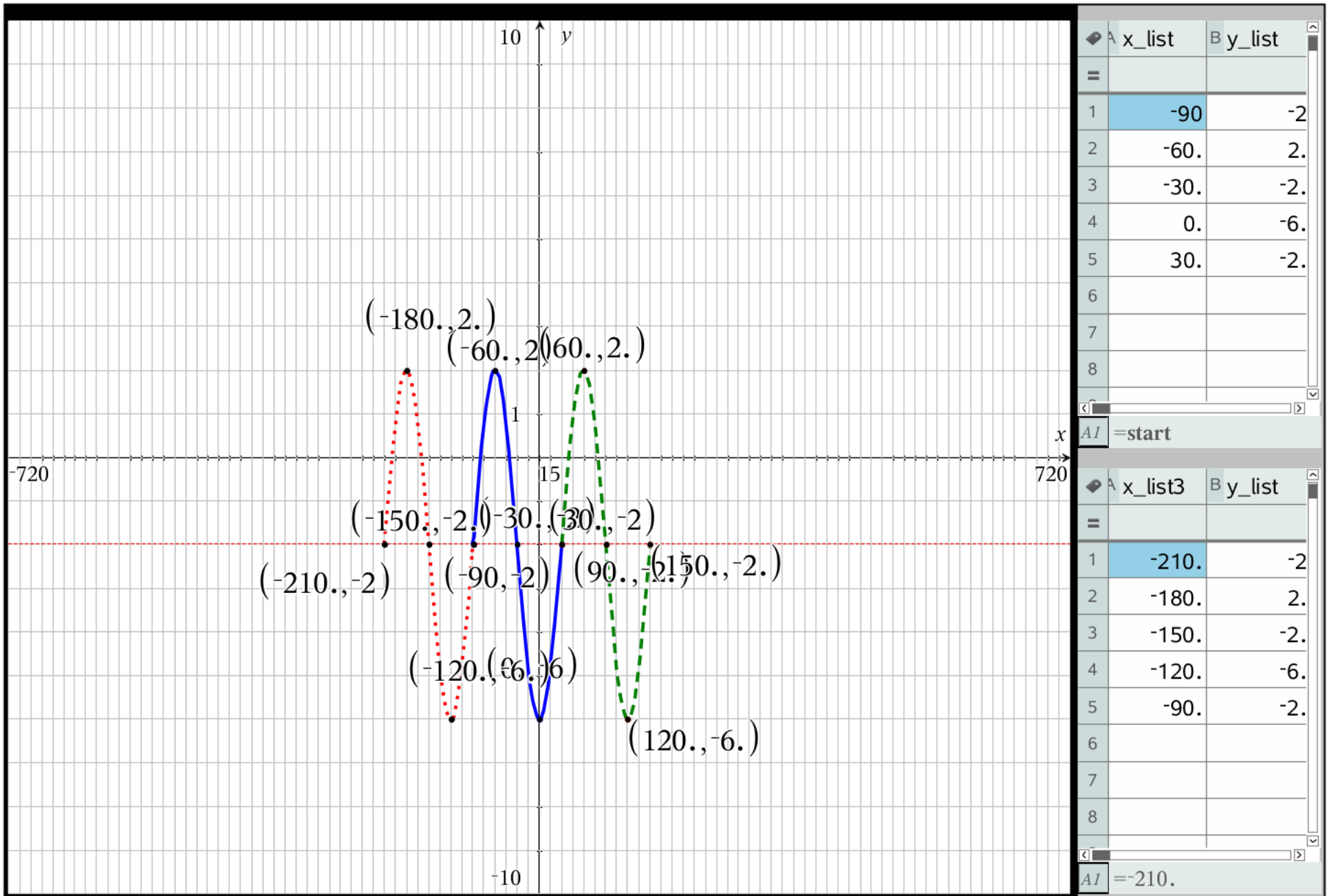
vertical shift SHIFT DOWN

compress horizontally

stretch vertically

Reflection? NONE





Problem 2

	A	B	C	D	E	F
=						
2	b		1/2			
3	c		120			
4	d		1			
5						

$$y = -2 \sin\left(\frac{1}{2}x + 120\right) + 1$$

$$y = -2 \sin\left(\frac{1}{2}(x + 240)\right) + 1$$

Period $[-240, 480.)$ Range $[-1, 3]$

Amplitude 2 Equation of Midline $y = 1$

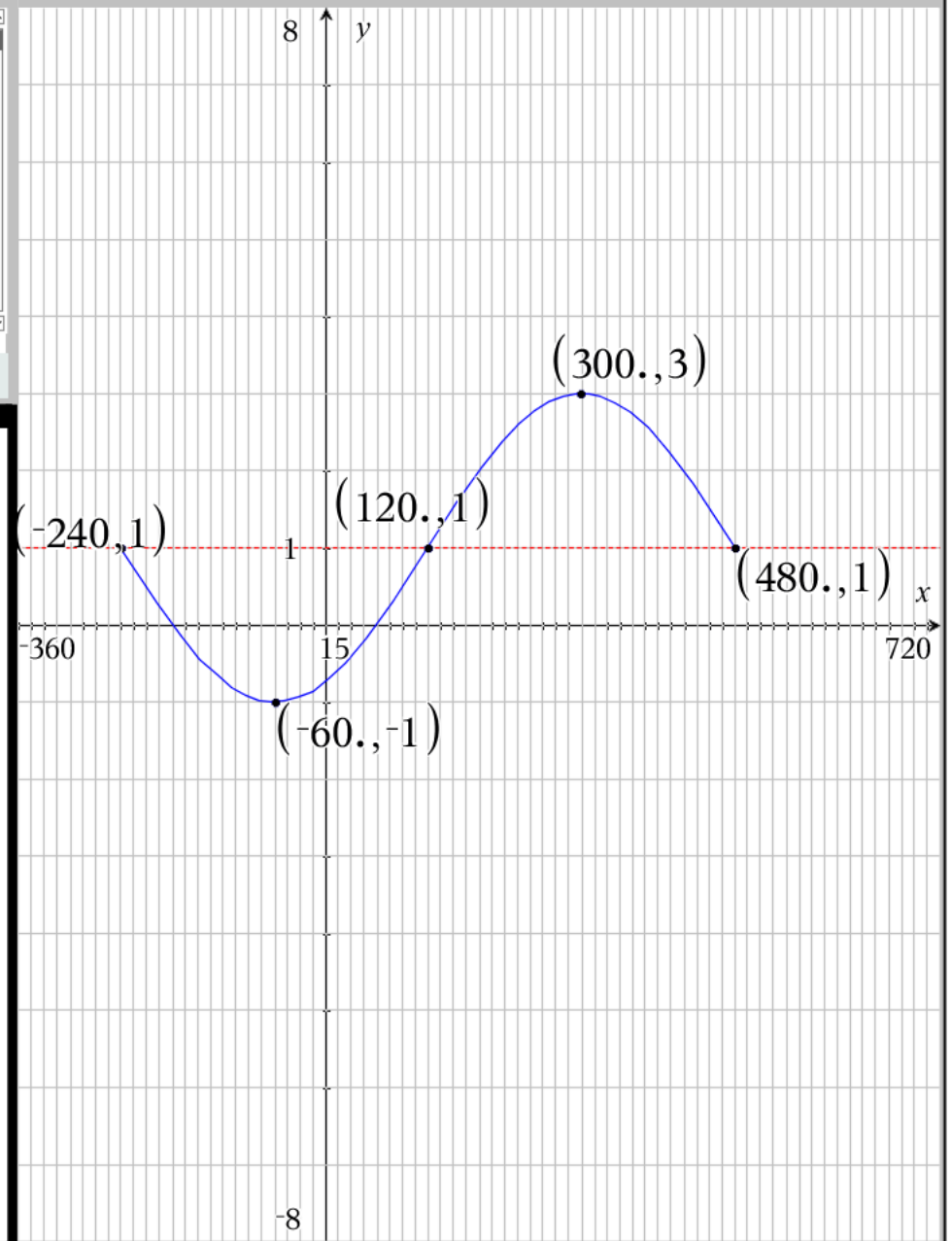
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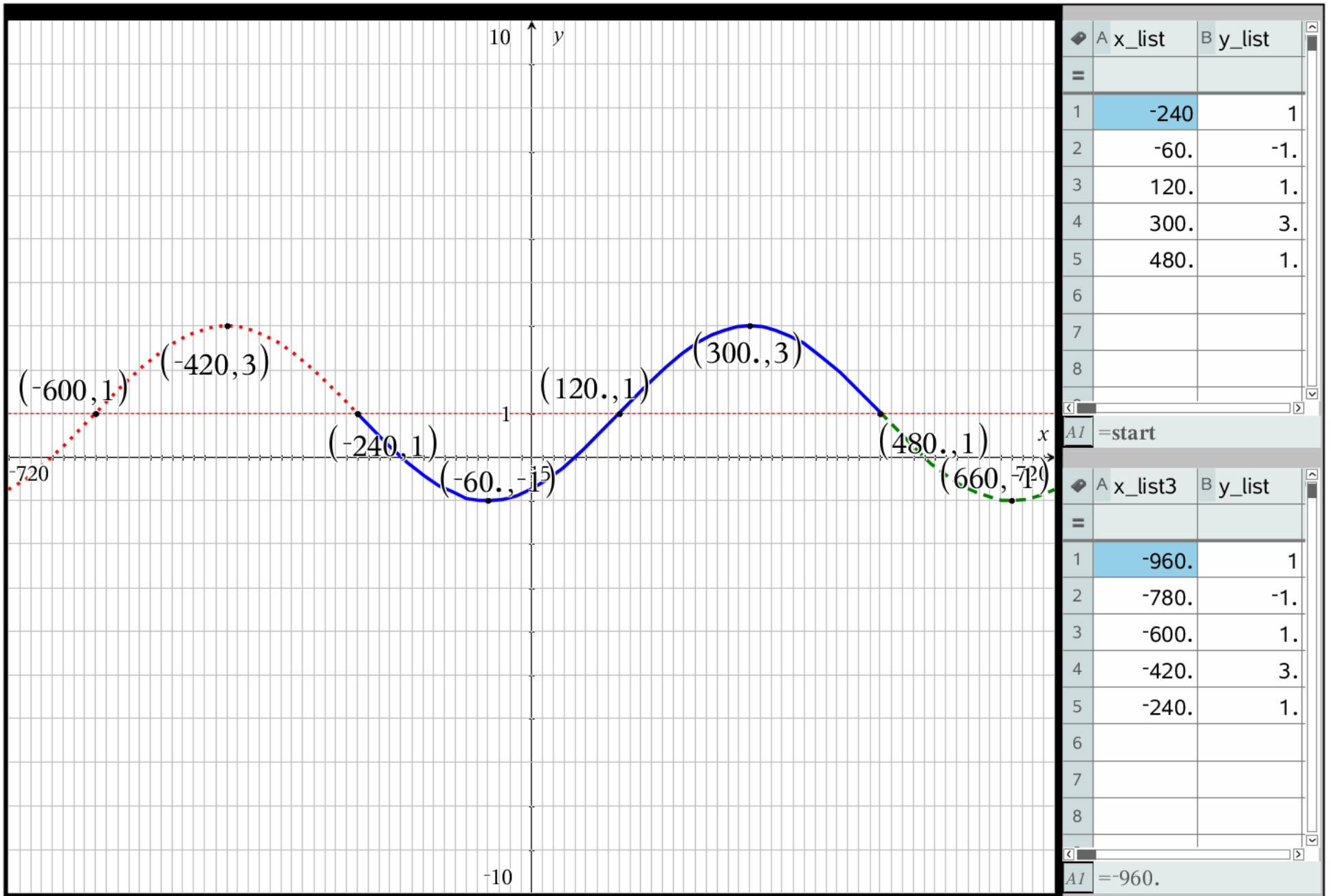
vertical shift SHIFT UP

stretch horizontally

stretch vertically

Reflection? Vertical over x axis





Problem 3

x_list3	v x_list2	w x_list	x y_list	Y	Z
= x_list-pe	=period+x		=a_given*		
4	-15.	345.	165.	-0.5 d	-3
5	30.	390.	210.	-3. period	180.
6				start	30

Z6 start: = $\frac{-c_given}{b_given}$

$$y = \frac{5}{2} \sin(-2x + 60) - 3$$

$$y = \frac{5}{2} \sin(-2(x - 30)) - 3$$

Period [30 , 210.) Range [$\frac{-11}{2}$, $\frac{-1}{2}$]

Amplitude $\frac{5}{2}$ Equation of Midline $y = -3$

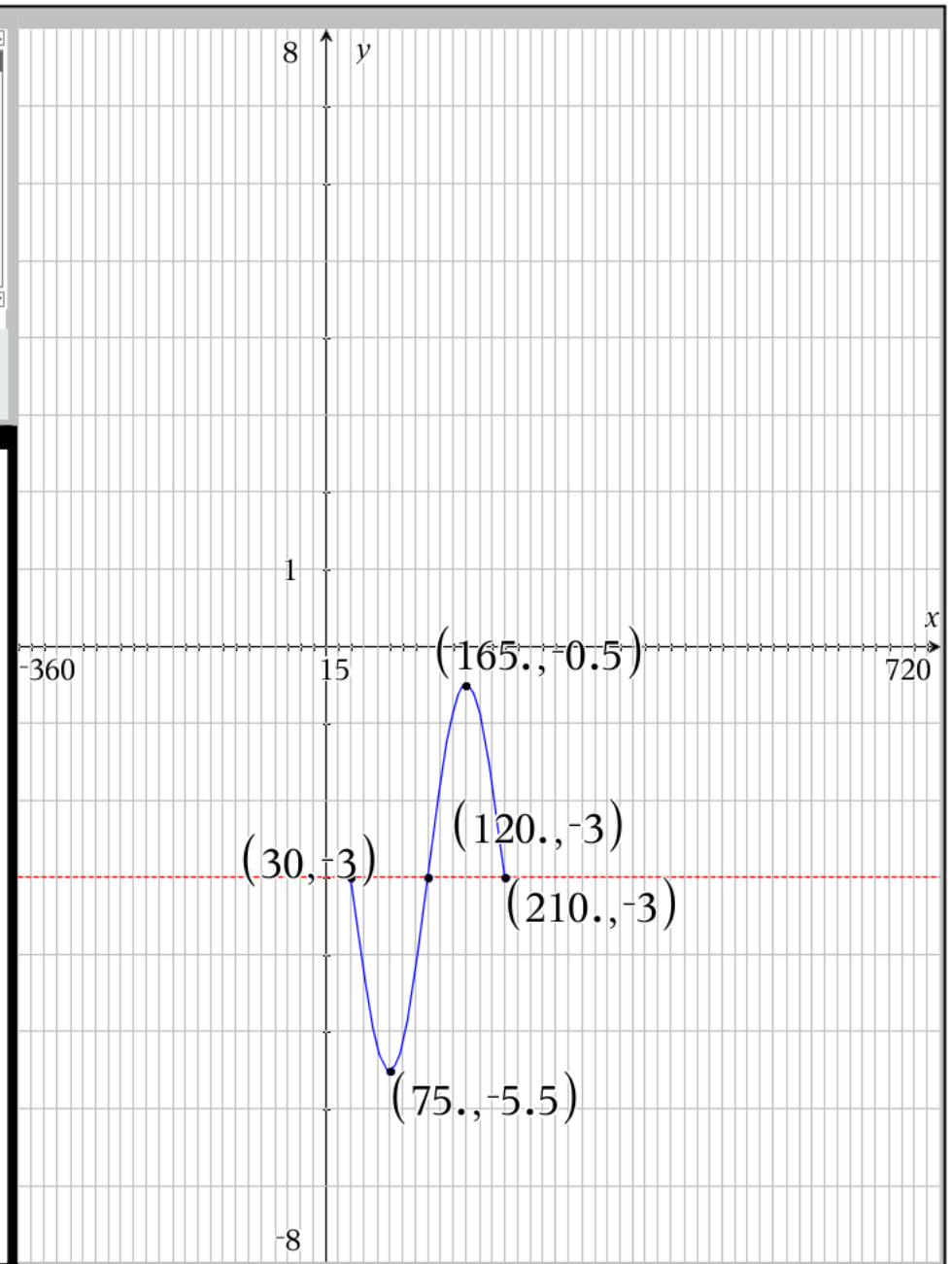
horizontal shift SHIFT RIGHT

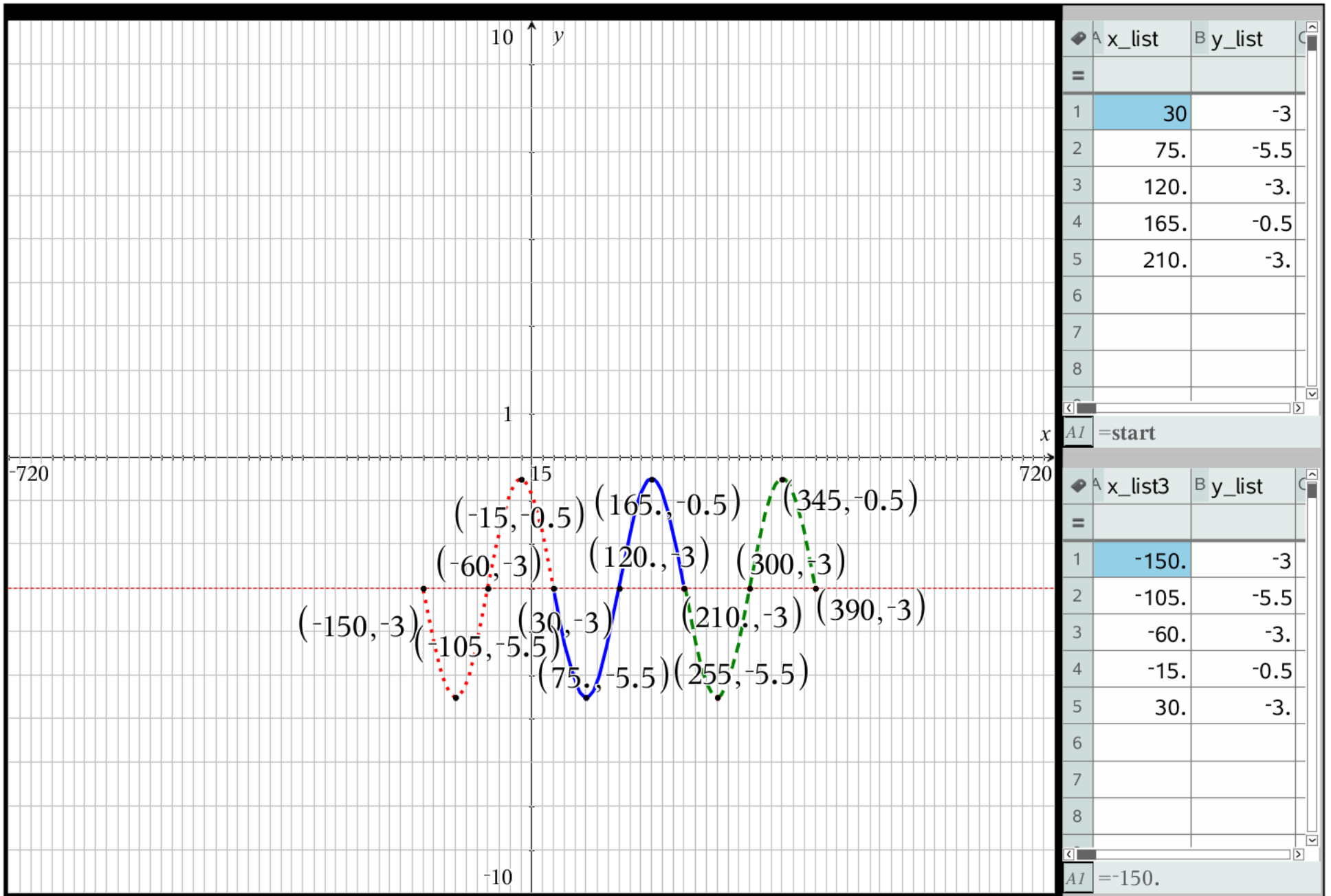
vertical shift SHIFT DOWN

compress horizontally

stretch vertically

Reflection? horizontally over y axis





A	x_list	B	y_list
1	30		-3
2	75.		-5.5
3	120.		-3.
4	165.		-0.5
5	210.		-3.
6			
7			
8			

AI =start

A	x_list3	B	y_list
1	-150.		-3
2	-105.		-5.5
3	-60.		-3.
4	-15.		-0.5
5	30.		-3.
6			
7			
8			

AI =-150.