Math 434

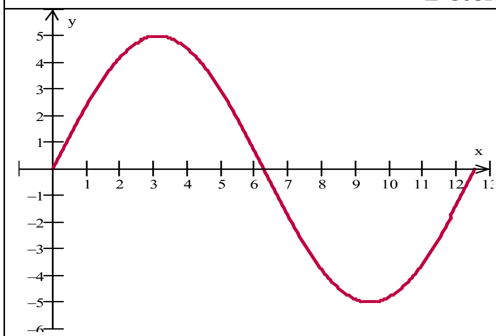
AIM: WRITING EQUATIONS OF SINUSOIDAL FUNCTIONS

Homework # 13

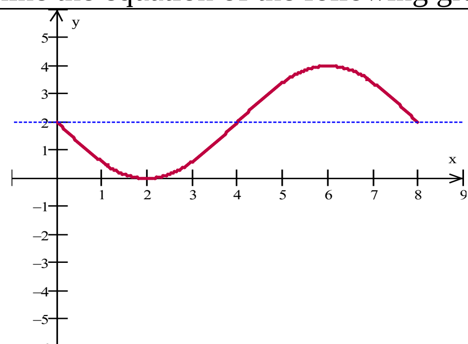
$\dfrac{SH\,13}{1,2}$	$\dfrac{SH\,13}{3,4}$	$\dfrac{SH\,13}{5,6}$	$\dfrac{SH\,13}{7,8}$

DO NOW

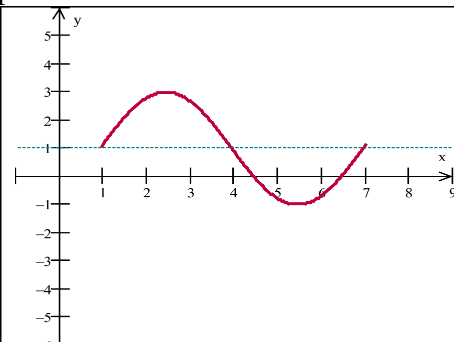
Determine the equation of the following graphs.



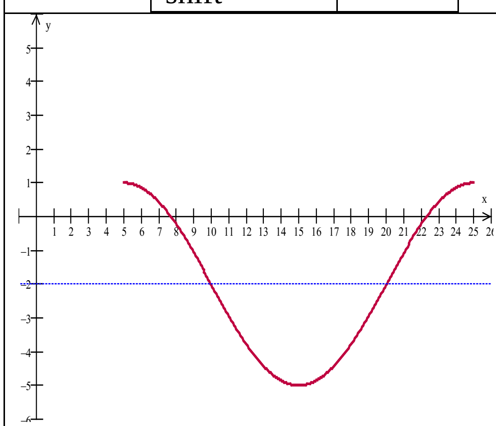
Amplitude	
Frequency	
Period	
CVI	
Phase shift	
Vertical shift	



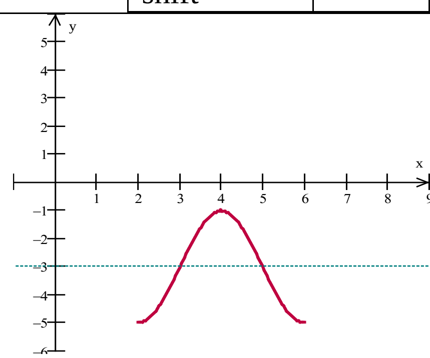
Amplitude	
Frequency	
Period	
CVI	
Phase shift	
Vertical shift	



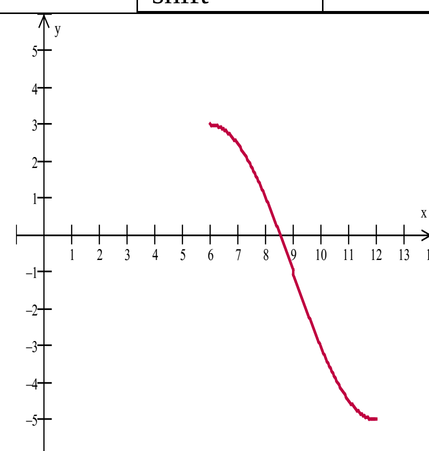
Amplitude	
Frequency	
Period	
CVI	
Phase shift	
Vertical shift	



Amplitude	
Frequency	
Period	
CVI	
Phase shift	
Vertical shift	



Amplitude	
Frequency	
Period	
CVI	
Phase shift	
Vertical shift	



Amplitude	
Frequency	
Period	
CVI	
Phase shift	
Vertical shift	

PLEASE TURN OVER TO THE OTHER SIDE

According to the *Old Farmer's Almanac,* the number of hours of sunlight in Boston on the summer solstice is 15.283 and the number of hours on the winter solstice is 9.067. • Write a sinusoidal function in the form $y = a\sin b(x-c)+d$ or $y = a\cos b(x-c)+d$ that models this data • Draw the graph • Predict the number of hours of sunlight on the 263rd day of the year. • the 91st day of the year • What is the earliest day of the year where there 13.729 hours of daylight?	
The Bay of Fundy in Nova Scotia is famous for its high tides. At a dock there, the depth of water is 2 feet at low tide and 58 feet at high tide which occurs at 6 hours and 12 minutes after low tide. • Write an equation that models this behavior. • What is the depth of the water **2** hours and 4 minutes after low tide? • How long after low tide will the depth of the water be 44 feet?	
A Ferris wheel 50 feet in diameter makes one revolution every 40 seconds. Write an equation of the function and graph it. If a rider starts at the low point, how long will it take for them to be 50 feet above the ground?	