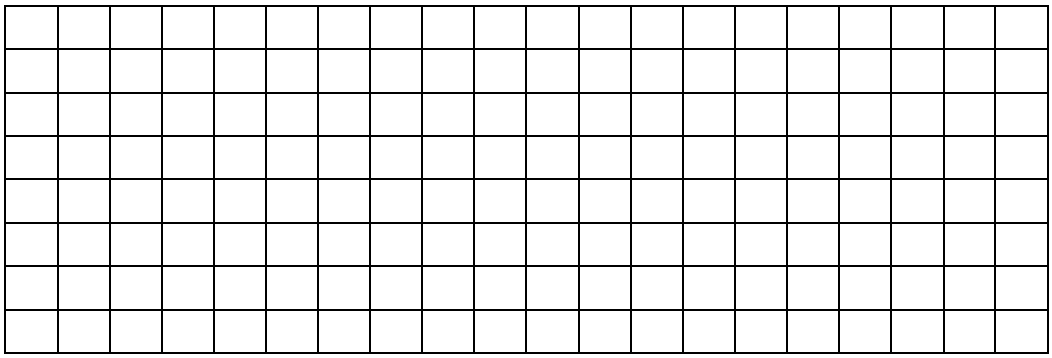
Algebra III 5/14/18 Name:_____
WS Applications and solving through graphing

1. A tidal wave is a fast-moving ocean wave caused by an underwater earthquake. The water first goes down from its normal level, then rises an equal distance above its normal level, and finally returns to its normal level. The period is about 15 minutes.

   Suppose that a tidal wave with an amplitude of 10 meters approaches the pier at Honolulu, where the normal depth of water is 14 meters.

   a. Graph the situation. Be sure to scale and label your axis.



   b. What are the amplitude, period, and vertical shift of your graph?

   c. Write an equation to fit your graph of the situation.

   d. What is the height of the water at a time of 6 minutes?

   e. At what times does the water level reach exactly 14 meters?

   f. At what time does the water level FIRST reach 18 meters?

2. Determine and equation for these data.

X	F(x)
0	-5.
1	-9.
2	-5.
3	6.
4	17.
5	21.
6	17.
7	6.
8	-5.
9	-9.
10	-5.