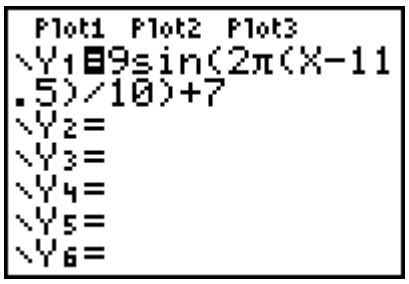
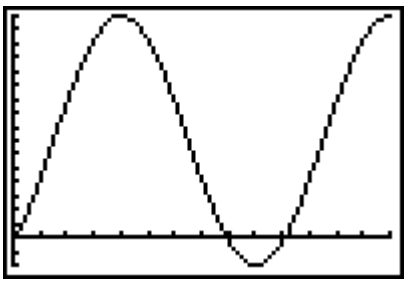
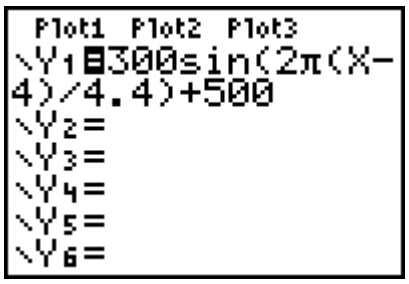
1) Steamboat Problem

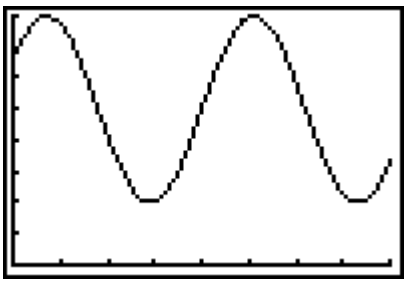


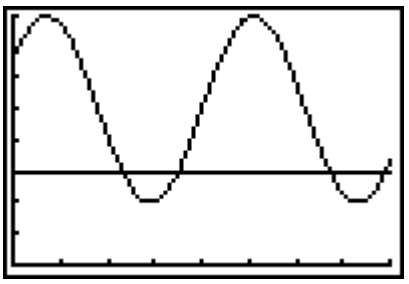


The weed was 14.3 m above the ground after 5 seconds.
The weed was 4.2 m above the ground after 17 seconds.
The piece of weed first entered the water after 7.9 s.

2) Fox Population Problem

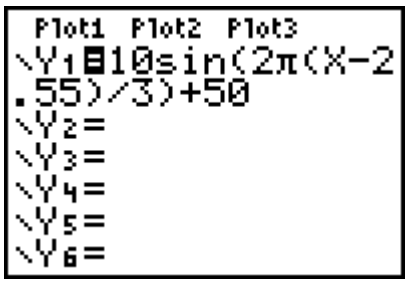


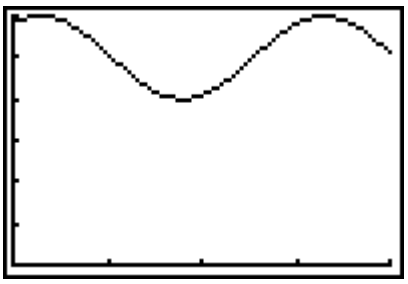




The population drops below 300 after 2.3 and 6.7 years.

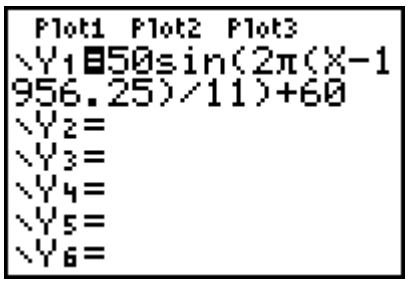
3) Bouncing Spring Problem

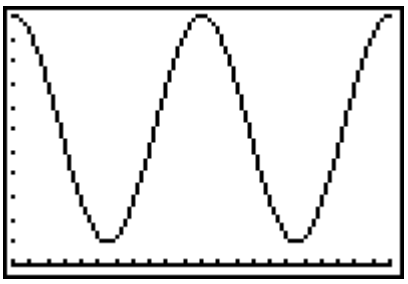




The distance of the weight above the ground is 43.3 cm after 17.2 s.

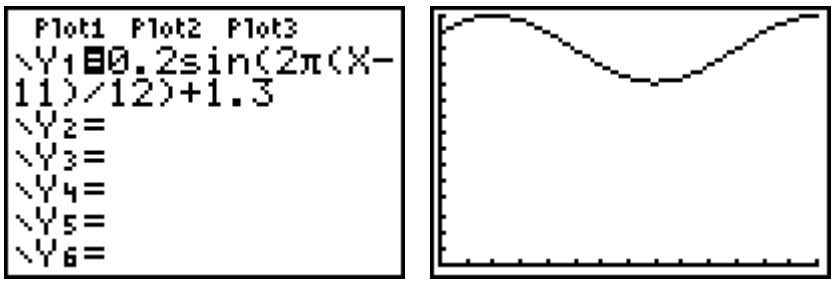
4) Sunspot Problem





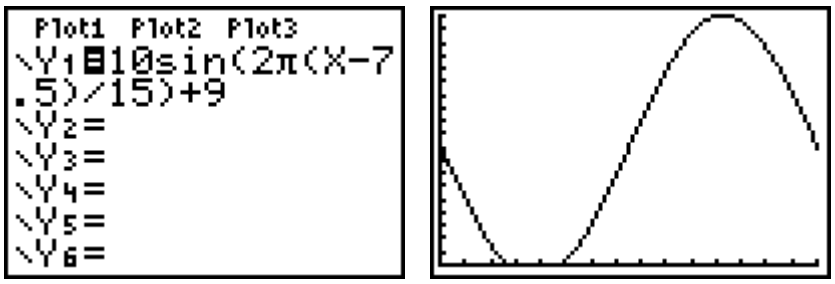
81 sunspots would be expected in 2001.
To check the validity of this trigonometric model, go to http://sunspotcycle.com/

5) Tide Problem



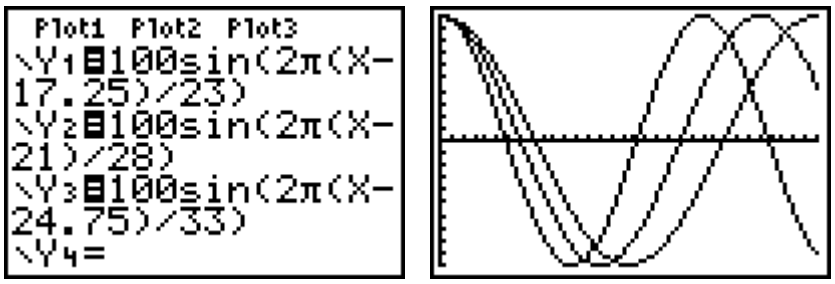
The estimated height at 4 pm 2 Oct is 1.4 m.
The estimated height at 5 pm 3 Oct is 1.3 m.

6) Tidal Wave Problem



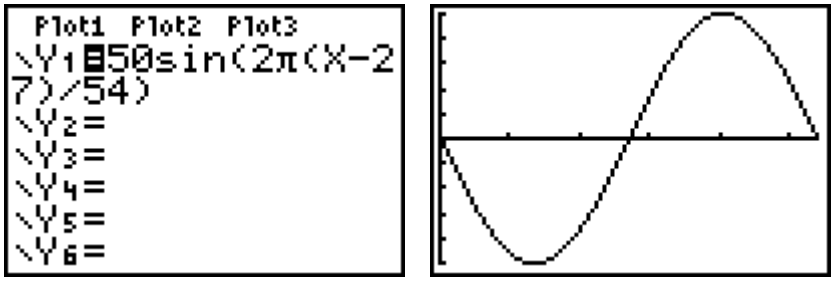
At 2 min the water height is 1.6 m.
At 4 min the water height is 0 m.
At 12 min the water height is 18.5 m.
Between 2.7 min and 4.8 min, there is no water at the pier.

7) Biorhythm Problem



On day 33, the physical value will be -92 and the emotional value will be 43.

8) Shock-Felt-Around-the-World Problem



The displacement after 21 s would be 32 m below the normal position.