Section 7.3

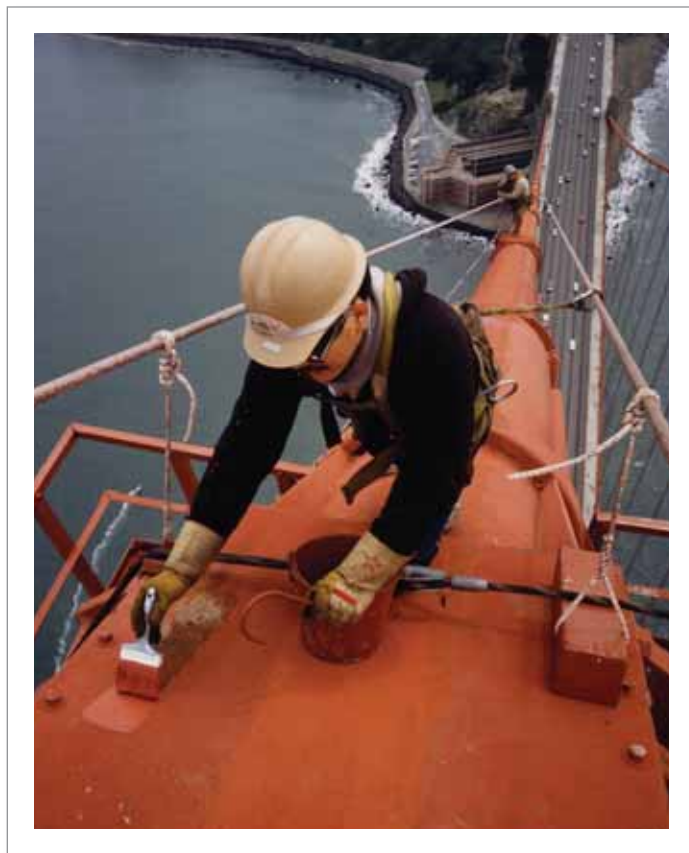**Golden Gate Bridge In Exercises 17–22, use the information below.**

The Golden Gate Bridge is a suspension bridge that spans the opening of the San Francisco Bay into the Pacific Ocean. It has two main suspension cables that pass over the tops of two main towers at 500 feet above the roadway. Each of the main cables has a diameter of about 3 feet. The table shows the heights of the main cables above the roadway relative to the distance from the middle of the bridge.

Distance (ft)	−2000	−1500	−1000	−500	0	500	1000	1500	2000
Height (ft)	456	260	120	36	8	36	120	260	456

17. Describe the pattern in the table.

18. Use a spreadsheet to graph the data in the table. Does the graph appear to be linear or quadratic? Explain your reasoning.

19. Use the graph from Exercise 18 to predict the height of the cables 2500 feet from the middle of the bridge. Is your prediction possible? Explain your reasoning.

20. A maintenance worker is painting a main cable when he accidently drops a paintbrush. The table shows the heights of the paintbrush at various times. Is the pattern in the table linear, exponential, quadratic, or none of these? Explain your reasoning.

Time (sec)	Height (ft)
0	576
0.5	572
1	560
1.5	540
2	512
2.5	476
3	432

21. Use a spreadsheet to graph the data in Exercise 20. Describe the graph.

22. Use the graph from Exercise 21 to predict how long it takes the paintbrush to reach the water.