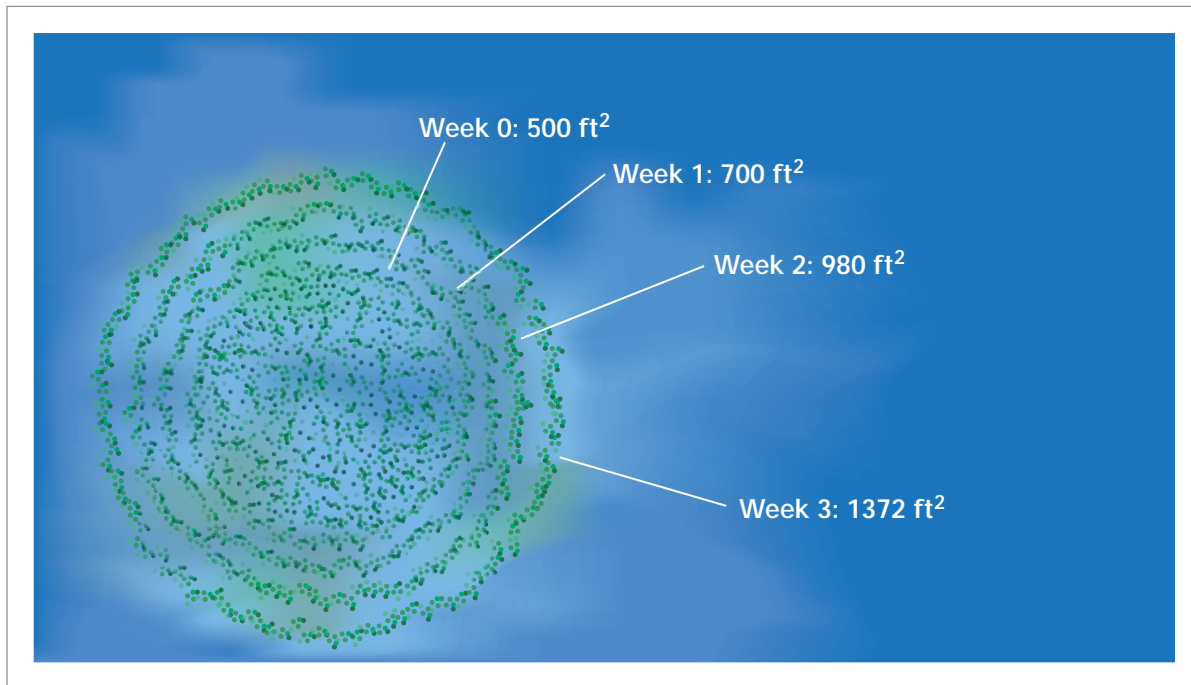


7.2 Exercises



Water Hyacinth An invasive species of water hyacinth is spreading over the surface of a lake. The figure shows the surface area covered by the water hyacinth over a 3-week period. In Exercises 1–4, use the figure. (See Examples 1 and 2.)



1. Is the pattern linear? Explain your reasoning.
2. At what rate is the surface area covered by the water hyacinth increasing?
3. Use a spreadsheet to extend the pattern to 20 weeks. Then make a scatter plot of the data and describe the graph.
4. The surface area of the lake is about 800,000 square feet. How many weeks does it take the water hyacinth to cover the entire lake?



5. **Invasive Species** An invasive species of water plant covers 1500 square feet of the surface of a lake. The lake has a surface area of about 2,500,000 square feet. The surface area covered by the plant increases by 60% each week. Make a table and a scatter plot showing the surface area covered by the plant until the plant covers the entire lake. (See Examples 1 and 2.)



6. **Invasive Species** Suppose in Exercise 5 that the surface area covered by the plant increases by only 20% each week. How much longer does it take the plant to cover the entire lake? (See Examples 1 and 2.)

