

**Challenge: Skills and Applications**

For use with pages 3–8

- One mile is approximately equal to 1.609 kilometers. Use unit analysis to change 60 miles per hour into kilometers per hour (km/h).
- Use unit analysis to change 60 miles per hour into feet per second.
- The speed of light is about 186,282 miles per second. Earth is about 92,976,000 miles from the sun. How long does it take the sun's light to reach Earth, to the nearest hundredth of a minute?
- When interest is compounded quarterly, the interest at the end of the quarter is added to the principal before interest is computed for the second quarter. Complete the table below to find the balance after 2 years for \$250 at 3.5%, compounded quarterly. Round to the nearest cent whenever necessary.

<i>Period</i>	<i>Beginning balance</i>	<i>Interest</i>	<i>Ending balance</i>
1	\$250	\$2.19	\$252.19
2	\$252.19	\$2.21	\$254.40
3	\$254.40		
4			
5			
6			
7			
8			

- How much simple interest would you earn on \$250 at 3.5% for 2 years? How does this compare with the amount of compound interest from Exercise 4?