

TRIGONOMETRIC GRAPHS, IDENTITIES, AND EQUATIONS

► *How long does it take to go around a Ferris wheel?*



CHAPTER

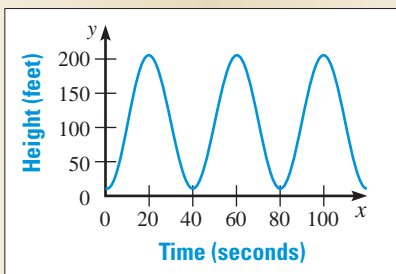
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APPLICATION: Ferris Wheels

The Texas State Fair is home to America's tallest Ferris wheel. The Ferris wheel takes riders to a height of 212 feet and has a diameter of about 203 feet. The maximum speed of the Ferris wheel is 1.5 rotations per minute.

Think & Discuss

The graph below shows a person's height (in feet) above the ground while riding the Ferris wheel at maximum speed. Use the graph to answer the questions below.



1. How many seconds does it take to reach the maximum height from the minimum height?
2. How long does it take to complete one revolution?
3. How would the graph change if the Ferris wheel rotated faster? if the Ferris wheel had a smaller diameter?

Learn More About It

In Example 5 on p. 842 you will use trigonometric functions to model a person's height above the ground while riding a Ferris wheel.



APPLICATION LINK Visit www.mcdougallittell.com for more information about Ferris wheels.