

POLYNOMIALS AND POLYNOMIAL FUNCTIONS

► *What type of function models the speed of a space shuttle?*



CHAPTER

6

APPLICATION: Space Exploration

The space shuttle's engines produce immense power, equivalent to the output of 23 Hoover Dams. All this power is needed to accelerate the shuttle to more than 17,000 miles per hour in about eight minutes after launch. This speed allows the shuttle to achieve and maintain an orbit 240 miles above Earth's surface.

Think & Discuss

The table below gives the time (in seconds) after launch and the corresponding average speed (in feet per second) of the shuttle.

Time (sec)	Speed (ft/sec)
20	463.4
40	979.3
60	1421.3
80	2283.5

1. Make a scatter plot of the data. Estimate how long it takes the shuttle to reach a speed of 1000 feet per second.
2. Would either a linear function or a quadratic function be a good model for the data? Explain.

Learn More About It

You will model the speed of the space shuttle in Exercise 49 on p. 385.



APPLICATION LINK Visit www.mcdougallittell.com for more information on space exploration.

