

Key Concept Builder **LESSON 3**

Acceleration

Key Concept What are three ways an object can accelerate?

Directions: Answer each question or respond to each statement on the lines provided.

1. Kim and Julio go to a raceway to watch Julio's older brother, Raul, compete. Raul's car covers the 2.5 km in 12 seconds, reaching a speed of 180 km/h. Use the equation below to determine the rate of acceleration of Raul's car.

In this equation, a is acceleration, v_f is the final velocity, v_i is the initial velocity, and t is time. (Hint: The initial velocity is 0 km/h.)

$$a = \frac{(v_f - v_i)}{t}$$

2. In another race, Raul gets his car to go from a speed of 96 km/h to a speed of 240 km/h in 9 seconds. What was his acceleration?
