71. **TAKS REASONING** Physicians can calculate the body surface area S (in square meters) of an adult using the formula $S = \sqrt{\frac{hw}{3600}}$ where h is the adult's height (in centimeters) and w is the adult's mass (in kilograms).

a. Simplify the formula.

b. Does an adult who is 1.7 meters tall and has a mass of 70 kilograms have a greater body surface area than an adult who is 1.5 meters tall and has a mass of 70 kilograms? *Explain* what effect height has on surface area if two people have the same mass.

72. **CHALLENGE** The speed s (in miles per hour) at which a vehicle is traveling before an accident is given by $s = \sqrt{30df}$ where d is the length of the skid mark (in feet) and f is the coefficient of friction. The coefficient of friction varies depending on the type of road surface and on the road conditions.

a. A driver is traveling on a newly paved road with a coefficient of friction of 0.80. The driver sees a hazard in the road and is forced to brake. The car skids to a halt leaving a skid mark that is 100 feet long. At what speed was the car traveling when the driver applied the brakes?

b. A perception-reaction time is the amount of time it takes for a person to react to a situation after perceiving it, such as applying the brakes after seeing a hazard in the road. The driver in part (a) has a perception-reaction time of 1.5 seconds. How many feet does the car travel before the driver applies the brakes? *Explain* how you found your answer.

c. What is the total distance (in feet) traveled from the time the driver in part (a) sees the hazard until the time the car skids to a halt?

MIXED REVIEW FOR TAKS

TAKS PRACTICE at classzone.com

REVIEW Lesson 6.3; TAKS Workbook

73. **TAKS PRACTICE** The area of a rectangle is given by $2x - 32$. Which of the following represents possible values of x? *TAKS Obj. 2*

Ⓐ $x \geq 16$ Ⓑ $x > -16$ Ⓒ $x > 16$ Ⓓ $-16 < x < 16$

REVIEW Extension 13.1; TAKS Workbook

74. **TAKS PRACTICE** A scientist examines 100 randomly selected frogs from a wetland for evidence of a particular trait. The scientist finds that 12 of the frogs have the trait. If there is a total of 750 frogs in the wetland, how many frogs can the scientist expect to have the trait? *TAKS Obj. 9*

Ⓕ 62 Ⓖ 75 Ⓗ 90 Ⓙ 105

REVIEW Extension 5.4; TAKS Workbook

75. **TAKS PRACTICE** Which equation describes a line having a slope of $-\frac{2}{3}$ and a y-intercept of $\frac{3}{5}$? *TAKS Obj. 3*

Ⓐ $10x + 15y = -9$ Ⓑ $10x + 15y = 9$

Ⓒ $15x + 10y = 9$ Ⓓ $15x + 10y = -9$