

Mathematics, Grade 10

- 37 Aircraft design engineers use the formula $V = \sqrt{\frac{841L}{CS}}$ to determine the safe landing speed of aircraft where

V = safe landing speed in feet per second
 L = gross weight of the aircraft in pounds
 C = coefficient of lift
 S = wing surface area in square feet.

What is the approximate safe landing speed for an aircraft with a gross weight of 9000 pounds and a wing surface area of 225 square feet, when the coefficient of lift is 2.8?

- A. 4 feet per second
- B. 110 feet per second
- C. 414 feet per second
- D. 22,000 feet per second

Reporting Category for Item 37: Number Sense and Operations

- 38 On January 1, 2000, a car had a value of \$15,000. Each year after that, the car's value will decrease by 20 percent of the previous year's value. Which expression represents the car's value on January 1, 2003?

- A. $15,000(0.8)^3$
- B. $15,000(0.8)^4$
- C. $15,000(0.2)^3$
- D. $15,000(0.2)^4$

Reporting Category for Item 38: Patterns, Relations, and Algebra

Mathematics, Grade 10

- 39 Which of the following equations represents a line that is parallel to the line $4x - 2y = 8$ and passes through the point $(0, -8)$?
- A. $2x + y = -4$
 - B. $2x - y = 8$
 - C. $x - 2y = 8$
 - D. $x - 2y = 16$

*Reporting Category for Item 39: **Geometry***

- 40 What is the effect on the circumference of a circle if the circle's radius is doubled?
- A. The circumference is multiplied by 2.
 - B. The circumference is multiplied by 4.
 - C. The circumference is multiplied by 8.
 - D. The circumference stays the same.

*Reporting Category for Item 40: **Measurement***