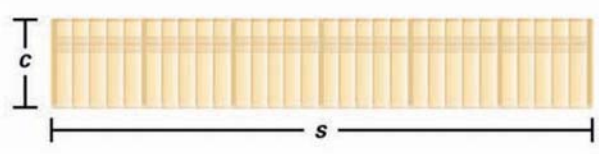
60. **TAKS REASONING** The photo below shows a replica of an airplane designed by Orville and Wilbur Wright, who were aviation pioneers in the early 20th century. The aspect ratio r of a wing from similar airplanes is given by the formula $r = \frac{s^2}{A}$ where s is the span, or the distance (in feet) between the wing tips, and A is the area (in square feet) of the wing.

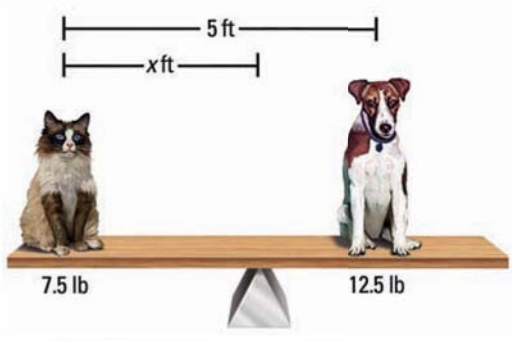


a. **Model** The length c of the chord of a wing is the distance (in feet) between the front and the back of the wing. For the rectangular wing shown, rewrite the formula for r in terms of c and s.

b. **Analyze** How does the value of r change when s is constant and c increases? when c is constant and s increases?

c. **Interpret** The greater the aspect ratio, the easier it is for an airplane to glide. Orville and Wilbur Wright designed an airplane with two rectangular wings that each had an aspect ratio of $\frac{20}{3}$ and a span of 40 feet. For what values of c would the airplane have glided more easily? *Explain*.

61. **CHALLENGE** A fulcrum is placed under the center of a board. In order for two objects to balance on the board, the distance (in feet) of each object from the center of the board must vary inversely with its weight (in pounds). In the diagram shown, what is the distance of each animal from the center of the board?



MIXED REVIEW FOR TAKS

TAKS PRACTICE at classzone.com

REVIEW Lesson 8.1; TAKS Workbook

62. **TAKS PRACTICE** If $y = -2x^2$, what is equivalent to $2y^3$? *TAKS Obj. 5*

Ⓐ $-16x^8$ Ⓑ $-4x^8$ Ⓒ $-16x^6$ Ⓓ $-4x^6$

REVIEW TAKS Preparation p. 758; TAKS Workbook

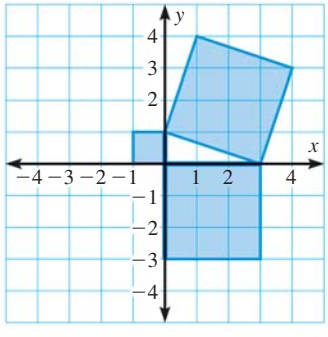
63. **TAKS PRACTICE** What is the area of the largest square in the diagram? *TAKS Obj. 7*

Ⓕ $\sqrt{10}$ units^2

Ⓖ 4 units^2

Ⓗ 10 units^2

Ⓙ 12 units^2



EXTRA PRACTICE for Lesson 12.1, p. 949 ONLINE QUIZ at classzone.com