

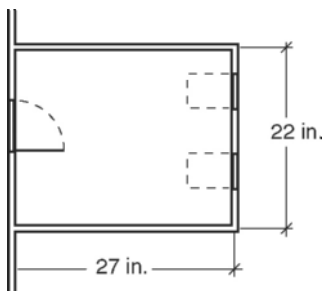
**LESSON**  
**7-1**

**Problem Solving**

**Ratio and Proportion**

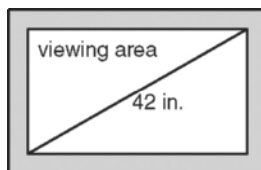
1. For a certain type of tropical fish, it is recommended that you have no more than 2 fish per 10 gallons of water. How many fish could you have in a fish tank that holds 35 gallons of water?

2. A library is being expanded, and the new wing's length is to be 50 feet greater than its width. A diagram of the new wing is shown. What are the actual dimensions of the new wing?



3. The *Titanic* was 882 feet 9 inches long. You can build a model of the ship that is 2 feet 6 inches long and 6 inches high. What was the approximate height of the *Titanic* to the nearest inch?

4. The *aspect ratio*, or ratio of length to width of the viewing area, of a wide-screen 42-inch television is 16 : 9. What are the dimensions of the rectangular viewing area to the nearest tenth?

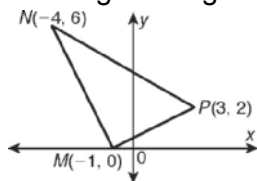


**Choose the best answer.**

5. In a museum gift shop, a miniature *Acrocathosaurus* is 22.8 centimeters long and 15.9 centimeters tall. The package says that the actual dinosaur was approximately 9 meters long. About how tall was the dinosaur?

- A 6.3 m                      C 12.9 m  
B 7.7 m                      D 40.3 m

7. Write a ratio expressing the slope of the hypotenuse in right triangle *MNP*.



- A  $-\frac{7}{4}$                       C  $-\frac{1}{2}$   
B  $-\frac{4}{7}$                       D  $\frac{1}{4}$

6. A model airplane has a wingspan of about 15 inches. The actual airplane has a wingspan of 30 feet and a length of 42 feet. How long is the model?

- F 11 in.                      H 21 in.  
G 14 in.                      J 30 in.

8. The ratio of the interior angle measures of a pentagon is 2 : 2 : 3 : 4 : 6. What is the measure of the smallest angle to the nearest degree?

- F 32°                          H 95°  
G 64°                          J 191°