

EXTRA PRACTICE — Exercises

Copyright © 2003 by Videotext *Interactive*

Unit VI – Second Degree Relations and Higher - Algebraic Fractions Part C – Problem Solving with Algebraic Fractions **Lesson 5 – “Inverse Variation” Problems**

For each of the following story problems about inverse variation, use the product format to find the relation needed to solve. Then solve and use common sense to check your answer.

1. If two boxes have the same capacity and depth, the length is inversely proportional to the width. One box is sixty inches long and forty inches wide. A second box is twelve inches long. What is the width if it has the same capacity and depth as the first box.
2. The intensity of illumination on a surface varies inversely as the square of the distance from the light source. A surface is twelve meters from a light source. How far must the surface be from the source to receive twice as much illumination?
3. The time required to travel a given distance is inversely proportional to speed of travel. If it takes four hours to make a trip at sixty kilometer per hour, how long will it take to make the same trip at ninety kilometers per hour?
4. In a closed room, the number of hours of safe oxygen level varies inversely as the number of people in the room. If there are two hours of safe oxygen level for one hundred people, how many hours of safe oxygen level are there for six hundred people?
5. When air is pumped into an automobile tire, the pressure required varies inversely as the volume. If the pressure is thirty pounds when the volume is one hundred forty cubic inches, find the pressure when the volume is one hundred cubic inches.

EXTRA PRACTICE — Answer Key

Copyright © 2003 by Videotext *Interactive*

Unit VI – Second Degree Relations and Higher - Algebraic Fractions Part C – Problem Solving with Algebraic Fractions

Lesson 5 – “Inverse Variation” Problems

For each of the following story problems about inverse variation, use the product format to find the relation needed to solve. Then solve and use common sense to check your answer.

1. 200 inches

2. 8.49 feet

3. 2 hours 40 minutes or $2\frac{2}{3}$ hours.

4. 20 minutes or $\frac{1}{3}$ hour.

5. 42 pounds