Unit 3---Lesson 4(b)-CLASSWORK/HOMEWORK

1. The length of a pipe (in feet) is inversely proportional to its pitch I (in hertz.) The inverse variation is modeled by the equation $p = \frac{495}{l}$. Find the length required to produce a pitch of 220 Hz.

l=2.25

2. Suppose that x and y varies inversely. Write a function that models the inverse variation when x=7 and y=2.

k=14

$$x = \frac{14}{y}$$

3. Suppose x and y vary inversely. If x=4 when y=2, what is x when y is 9?

k=8

$$x = \frac{8}{9}$$

4. The volume V of gas varies inversely to the pressure P. The volume of a gas is 200 cm³ under pressure of 32 kg/cm². What will be its volume under the pressure of 40 kg/cm²?

k=6400

v=160

5. The time it takes to fly from Los Angeles to New York varies inversely as the speed of the plane. If the trip takes 6 hours at 900 km/h, how long would it take at 800 km/h?

k=5400

$$t = \frac{27}{4}$$

6. The time T required to do a job varies inversely as the number of people P working. It takes 5 hours for 7 volunteers to pick up rubbish from 1 mile of roadway. How long would it take 12 volunteers to complete the job?

k=35

$$t = \frac{35}{12}$$