

## Section 6.7 – Word Problems Continued

### II. Rate of Work

If it takes 3 hours to paint a room, what fraction of the room is painted after:

1 hour?

2 hours?

3 hours?

Rate of Work = fraction of a job completed after 1 hour

$$= \frac{1}{\text{Total \# of Hours to Complete a Job}}$$

What is the Rate of Work for the example above?

#### **Formula:**

**(Rate of Work) x (# of Hours Worked) = Portion of Job Completed**

Ex. 1 – Al and Joe own a small roofing company. Joe can roof a house alone in 9 hours, whereas Al can roof a house alone in 8 hours. How long will it take them to do the job if they work together?

Let  $x$  = # of hours Al and Joe work together

Set up a table to help organize the information:

	<b>Rate of Work</b>	<b># of Hours Worked</b>	<b>Portion of Job Completed</b>
<b>Al</b>			
<b>Joe</b>			

Ex. 2 – Larry and Moe mow the grass at a country club. Working alone, it takes Larry 7 hours to cut the grass. It takes Moe 5 hours to cut the grass if he works alone. How long will it take them to cut the grass if they work together?