

M117 SECTION 7.6 PROBLEM SOLVING WITH RATIONAL EXPRESSIONS

Application problems will be scored upon the construction of a correct algebraic equation that models the given problem. Only giving the correct answer (found by guess & check) will not result in gaining full credit. **NO EQUATION = NO CREDIT**

NUMBER PROBLEMS

The quotient of a number and 6, minus $\frac{5}{3}$, is the quotient of the number and 2. Find the number.

WORK PROBLEMS

Martha can rake the leaves in her yard in 5 hours. Her brother can do the job in 16 hours. How long will it take them to do the job working together?

	rate (How much of the job does he/she do in one hour?)	time (working together)	work (rate x time)
Martha			
Brother			

DISTANCE/RATE/TIME PROBLEMS **d = rt**

Chuck and Dana agree to meet at the local park. Chuck rides 18 miles in the same time that Dana rides 12 miles. If Chuck's speed is 2 mph more than Dana's, and they travel the same length of time, at what speed does Chuck ride?

	Distance	= Rate	x Time
Chuck			
Dana			

DISTANCE with WIND (or CURRENT) **d = rt**

A jet plane traveling at a constant speed goes 1200 miles with the wind, then turns around and travels for 1000 miles against the wind. If the speed of the wind is 50 mph and the total flight took 4 hours, find the speed of the plane.

YOU TRY: Careful - these are not exactly the same as the examples

Three times the reciprocal of a number equal 9 times the reciprocal of 6. Find the number.

The *Belle of Louisville* travels upstream 120 miles and then returns. The Ohio river current is 4 mph. What is the speed of the *Belle* in still water if the total trip takes $22\frac{1}{2}$ (use $\frac{45}{2}$) hours?

One maid can clean the house three times faster than another. Working together they can clean the entire house in 3 hours. How long would it take the faster maid cleaning alone?

A loaded moving truck is traveling 15 mph faster than a freight train. In the time it takes the train to travel 140 miles, the truck travels 200 miles. Find the speed of the truck.