

COT 3100 Recitation: Random Algebra Problems

Set #1

1) 1) The sum of Bob and Carol's age now is 100. Sixteen years ago, Bob was three times as old as Carol. How old was Bob when Carol was born?

2) If $\frac{x}{x-1} = \frac{y^2+2y-1}{y^2+2y-2}$, then what is x equal to, in terms of y?

3) Three men, Bob, John and Steven, working together do a job in 6 hours less time than Bob alone, in 1 hour less time than John alone, and in one half the time needed by Steven, when working alone. How many hours would Bob and John working together take to do the job?

4) It is now in between 10:00 and 11:00 o'clock, and six minutes from now, the minute hand of the watch will be exactly opposite the place where the hour hand was three minutes ago. What is the exact time now?

Set #2

1) A teen age boy wrote his own age after his father's. (Both are in between 10 and 99, inclusive.) From this new 4 digit number he subtracted the absolute value of the difference of their ages to get 4289. What is the sum of their ages?

2) When one ounce of water is added to a mixture of acid and water, the resulting mixture is 20% acid. When one ounce of acid is added to this new mixture, the resulting mixture is $\frac{1}{3}$ acid. What is the percentage of acid in the original mixture?

3) Al gets the disease algebritis and must take one green pill and one pink pill each day for two weeks. A green pill costs \$1 more than a pink pill and Al's pills cost a total of \$546 for the two weeks. How much does one green pill cost?

4) Cassandra sets her watch to the correct time at noon. At the actual time of 1:00 PM, she notices that her watch reads 12:57 and 36 seconds. Assuming that her watch loses time at a constant rate, what will be the actual time when her watch first reads 10:00 PM?