HARRISON

(1) Last month the school Honor Society's aluminum can collection was short of its quota by 400 cans. This month, the Society collected 500 cans more than twice their monthly quota. If the difference between the two collections is 2900 cans, what is the monthly quota?

(2) An express train travels 150 km in the same time that a freight train travels 100 km. The average speed of the freight train is 20 km/h less than that of the express train. Find the speed of each train.

Use the fact that time $= \dfrac{distance}{rate}$

(3) Adult tickets for a concert were $5 each and student tickets were $2 each. A total of 980 tickets, worth $3460, were sold. How many adult tickets were sold?

(4) Maria paid 80 cents each for some packages of cards. She sold all but 18 packages for $2 each, making a profit of $48. How many packages of cards did she buy?

(5) Tickets for a concert cost $8 for adults and $4 for students. A total of 920 tickets worth $5760 were sold. How many adult tickets were sold?

(6) A chemist has 60 g of solution that is 70% acid. How much water should be added to make a solution that is 40% acid?

(7) How many kilograms of water must be added to 10 kg of a 75% antifreeze solution in order to produce a 50% solution?

(8) How many kilograms of pure alcohol must be added to 40 g of a 70% alcohol solution to produce an 85% alcohol solution?

(9) How many kilograms of water must be evaporated from 10 kg of an 8% salt solution to produce a 25% salt solution?

(10) A chemist has 500 g of a solution that is 45 % acid. How many grams of water must be added to reduce the acidity to 15%?

(11) A grocer has two kinds of nuts. One costs $5/kg and another costs $4.20/kg. How many kilograms of each type of nut should be mixed in order to get 60 kg of a mixture worth $4.80/kg?