1) Leanne works at a greenhouse. She needs to plant a total of 32 bulbs. Two types of bulbs are available. She is asked to plant three times as many crocus bulbs as tulip bulbs. How many of each should she plant?
2) James looks in his TV cabinet and finds some old Beta and VHS tapes. He has 17 tapes in all. He finds that he has three more Beta tapes than VHS tapes. How many of each type does he have?
3) The girls' soccer team held a fundraising car wash. They charged $\$ 5$ for each car and $\$ 8$ for each van. They washed 44 cars and vans and collected $\$ 262$. How many of each type of vehicle did they wash?
4) Rehman invests his summer earnings of $\$ 3050$. He invests part of the money at $8 \%$ per year, and the rest at $7.5 \%$ per year. After 1 year, these investments earn $\$ 242$ in simple interest. How much did he invest at each rate?
5) To join Karate Klub, David must pay a monthly fee of $\$ 25$ and an initial fee of $\$ 200$. If he chooses Kool Karate, he must pay an initial fee of only $\$ 100$ but $\$ 35$ per month.
a) After how many months is the cost the same at either karate club?
b) If David plans to try karate for 6 months, which club should he join?
c) If David decides to do karate for a year, which club should he join?
6) White vinegar is a solution of acetic acid in water. There are two strengths of white vinegar, a $5 \%$ solution and a $10 \%$ solution. How many ml of each solution must be mixed to make 50 ml of a $9 \%$ vinegar solution?
7) It took a patrol boat 5 hours to travel 60 km up a river against the current, and 3 hours for the return trip with the current. Find the speed of the boat in still water and the speed of the current.
8) Kareem took 5 hours to drive 470 km from Sudbury to Brantford. For part of the trip, he drove at $100 \mathrm{~km} / \mathrm{h}$. For the rest of the trip, he drove at $90 \mathrm{~km} / \mathrm{h}$. How far did he drive at each speed?

## Answers

1) 24 crocus bulbs and 8 tulip bulbs
2) 10 beta tapes and 7 vhs tapes
3) 30 cars and 14 vans
4) $\$ 2650$ at $8 \% /$ year and $\$ 400$ at $7.5 \% /$ year
5) a) 10 months b) Kool Karate c) Karate Klub
6) 10 ml of the $5 \%$ solution, 40 ml of the $10 \%$ solution
7) boat in still water $16 \mathrm{~km} / \mathrm{h}$; current $4 \mathrm{~km} / \mathrm{h}$
8) 200 km at $100 \mathrm{~km} / \mathrm{h} ; 270 \mathrm{~km}$ at $90 \mathrm{~km} / \mathrm{h}$
