In the last section we solved simultaneous equations. We now use them to model and solve problems. Some of these problems, such as mixture problems, have been seen before. We begin with modelling mixture problems using simultaneous equations.
Example 1.14

A chemist has a 10% and a 30% solution by volume of hydrochloric acid. She wants to prepare 2.5 litres of 15% HCl for an experiment. What volume of each solution will she need?

Solution
Example 1.14 (ctd)
Example 1.15

Bruce is a building contractor. If he hires 8 bricklayers and 2 roofers, his daily payroll is $960, while 10 bricklayers and 5 roofers require a daily payroll of $1500. What is the daily wage of a bricklayer and the daily wage of a roofer?

Solution
Example 1.16

Tom is a painter and takes a job that requires first an undercoat and then two layers of sheen. His paint bill came to $760 and he has seven two-litre empty paint cans at the end of the job. How much of each type of paint did he use?

Solution
Example 1.16 (ctd)
Tutorial 3, Q3 (p) (ctd)