

## EXERCISE 12 – Problem Solving

Write down an algebraic equation to represent each of the problems below, then solve the problem.

SOLUTION

1. Jane drove her car 120km to a town A, then drove on to town B. If she drove a total of 310km, how far is it from town A to town B? <u>The equation is:</u>	
2. If two consecutive numbers add up to 77, what is the smaller of the two numbers? <u>The equation is:</u>	
3. The product of two consecutive numbers is 72. What is the sum of these two numbers? <u>The equation is:</u>	
4. The sum of two consecutive even numbers is 94. What was the smaller number? <u>The equation is:</u>	
5. Fifteen more than half of a certain number is 24. What is the number? <u>The equation is:</u>	
6. The sum of a certain positive number and its square is 90. What is the number? <u>The equation is:</u>	
7. A chair was sold at \$312 after a 20% profit was added to the cost price. What was the original cost price of the chair? <u>The equation is:</u>	
8. If Wendy received twice as much money as Bill and together they received a total of \$135, how much did Bill receive? <u>The equation is:</u>	
9. If I paid 25 cents more for an apple than I paid for a banana, and I paid \$1.35 for both, how much did I pay for the banana? <u>The equation is:</u>	
10. Three people won \$1333. They kept \$208 to buy more tickets and the remainder was shared equally between them. How much did each person receive? <u>The equation is:</u>	

Exercise 12 - ANSWERS

1:  $120+x = 310$ ;  $x = 190$

2:  $x+(x+1) = 77$ ;  $x = 38$

3:  $x(x+1) = 72$ ;  $x+(x+1) = 17$

4:  $x+(x+2) = 94$ ;  $x = 46$

5:  $\frac{x}{2} + 15 = 24$ ;  $x = 18$

6:  $x+x^2 = 90$ ;  $x = 9$

7:  $120\% \times x = \$312$ ;  $x = \$260$

8:  $2x+x = 135$ ;  $x = \$45$

9:  $x+(x+25) = 135$ ;  $x = 55$  cents

10:  $3x+208 = 1333$ ;  $x = \$375$