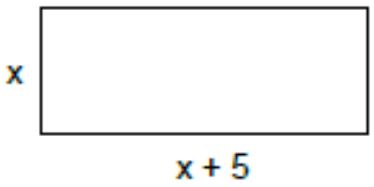
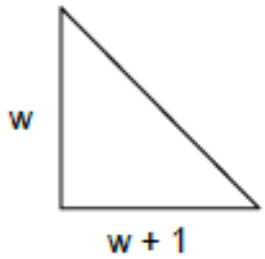
Forming and Solving Equations 2

Section A

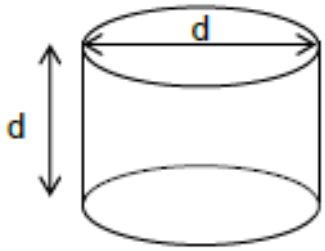
The area of this rectangle is 300 cm²



The area of this triangle is 6 cm²



The surface area of this cylinder is 150π cm²



1) Work out the value of x.

2) Work out the perimeter.

3) Work out the value of w.

4) Work out the length of the hypotenuse to 2 dp.

5) Work out the value of d.

6) Find the volume of the cylinder in terms of π.

Section B

1) *A right-angled triangle has a hypotenuse with length 2x - 2, and two sides of length x and x + 2. Form an equation then solve it to find the length of each side of the triangle.*

2) *Kris thinks of a positive number. He divides the number into 14 then subtracts 5 from the result. The answer is the same as the number he first thought of. What number did he first think of?*

3) *The sum of a number and its reciprocal is 2.9. What is the number?*

4) *Lucy thinks of a number and calls it x. David thinks of a number that is 4 more than Lucy's number. Lucy and David square their numbers and the difference between their answers is 88. What number did Lucy and David think of?*

5) *The average height of the Johnson family is 155.4 cm. If they include the dog, whose height is 60 cm, the average height of the Johnson family decreases to 139.5 cm. How many members are in the Johnson family (including the dog!)?*

6) *The population of wild tigers in Myanmar fell from 16000 to 8192 in 3 decades at a rate of x% per decade. Find the value of x.*