

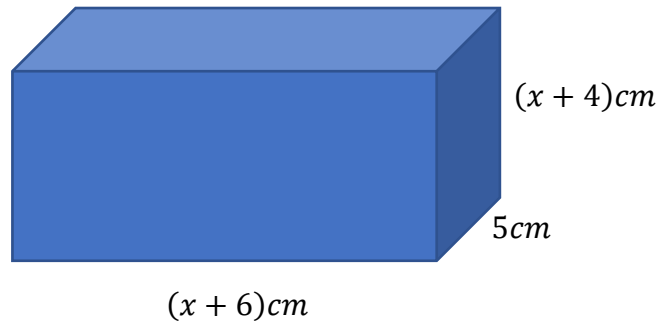
February Daily Tasks: Days 1 - 7

1. A summer flight to Paris costs £141. This includes taxes charged at 17.5%. Calculate the cost of the flight before the taxes were added.

2. Solve the equation

$$2^{-x} = 0.25$$

3. A cuboid is shown below with dimensions stated.



- a) If the volume of the cuboid is  $315cm^3$ , show clearly that

$$x^2 + 10x - 39 = 0$$

- b) Hence, solve the equation and state the dimensions of the cuboid.

4. A colony of monkeys is decreasing at a rate of 9.5% per year.

The initial population in 2018 was 16 300.

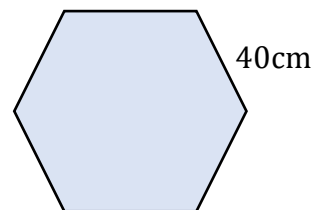
Scientists have decided action should be taken when it falls below 10 000.

Should action be taken before 2023?

- 5 Factorise and fully simplify

$$\frac{4x^2 - 25}{2x^2 + 11x + 15}$$

6. A hexagonal concrete slab is shown with each side 40cm. Calculate the area of each slab.



7. Expand and simplify  $(x - 4)(x + 2)(x - 5)$